

**Company: ENCANA OIL & GAS (USA) INC**

**Well: HAGEN FEDERAL 22-1A (PC22)**

**Field: SOUTH PARACHUTE**

**County: GARFIELD**

**State: COLORADO**

## RESERVOIR SATURATION LOG SIGMA MODE GR-CCL

County: GARFIELD  
Field: SOUTH PARACHUTE  
Location: SHL: 642 FNL & 1797 FWL  
Well: HAGEN FEDERAL 22-1A (PC22)  
Company: ENCANA OIL & GAS (USA) INC

LOCATION		Elev.:	K.B.	6543.00 ft
SHL: 642 FNL & 1797 FWL				
BHL: 133 FNL & 464 FEL		G.L. 6521.00 ft		
		D.F. 6542.00 ft		
Permanent Datum:	GROUND LEVEL	Elev.: 6521.00 ft		
Log Measured From:	KELLY BUSHING	22.00 ft above Perm. Datum		
Drilling Measured From:	KELLY BUSHING			
API Serial No.	Section	Township	Range	
05-045-22016-0C	22	7S	95W	

		Run 1	Run 2	Run
PVT DATA				
Oil Density				
Water Salinity				
Gas Gravity				
Bo				
Bw				
1/Bq				
Bubble Point Pressure				
Bubble Point Temperature				
Solution GOR				
Maximum Deviation				
CEMENTING DATA				
Primary/Squeeze	Primary			
Casing String No				
Lead Cement Type				
Volume				
Density				
Water Loss				
Additives				
Tail Cement Type				
Volume				
Density				
Water Loss				
Additives				
Expected Cement Top				

Logging Date: 22-Oct-2013

Run Number: 1

Depth Driller: 8730 ft

Schlumberger Depth: 8640 ft

Bottom Log Interval: 8606 ft

Top Log Interval: 2000 ft

Casing Fluid Type: FRESH WATER

Salinity: \_\_\_\_\_

Density: 8.4 lbm/gal

Fluid Level: 60 ft

BIT/CASING/TUBING STRING

Bit Size: 8.750 in

From: 22 ft

To: 8730 ft

Casing/Tubing Size: 4.500 in

Weight: 11.6 lbm/ft

Grade: S-80

From: 22 ft

To: 8672 ft

Maximum Recorded Temperatures: 223 degF

Logger On Bottom: 22-Oct-2013

Unit Number: 391

Recorded By: KIRSTIE BUNTING

Witnessed By: SHANE

Logging Date: \_\_\_\_\_

Run Number: \_\_\_\_\_

Depth Driller: \_\_\_\_\_

Schlumberger Depth: \_\_\_\_\_

Bottom Log Interval: \_\_\_\_\_

Top Log Interval: \_\_\_\_\_

Casing Fluid Type: \_\_\_\_\_

Salinity: \_\_\_\_\_

Density: \_\_\_\_\_

Fluid Level: \_\_\_\_\_

BIT/CASING/TUBING STRING

Bit Size: \_\_\_\_\_

From: \_\_\_\_\_

To: \_\_\_\_\_

Casing/Tubing Size: \_\_\_\_\_

Weight: \_\_\_\_\_

Grade: \_\_\_\_\_

From: \_\_\_\_\_

To: \_\_\_\_\_

Maximum Recorded Temperatures: \_\_\_\_\_

Logger On Bottom: \_\_\_\_\_

Unit Number: \_\_\_\_\_

Recorded By: \_\_\_\_\_

Witnessed By: \_\_\_\_\_

## DEPTH SUMMARY LISTING

Date Created: 14-AUG-2013 11:54:57

### Depth System Equipment

Depth Measuring Device	Tension Device	Logging Cable
Type: IDW-JB Serial Number: 6349 Calibration Date: 7-31-2013 Calibrator Serial Number: Calibration Cable Type: 1-25ZT Wheel Correction 1: -5 Wheel Correction 2: -4	Type: CMTD-B/A Serial Number: 3421 Calibration Date: 14-AUG-201 Calibrator Serial Number: 174878 Number of Calibration Points: 10 Calibration RMS: 3 Calibration Peak Error: 8	Type: 1-25ZT Serial Number: 112136 Length: 19000 FT Conveyance Method: Wireline Rig Type: LAND

### Depth Control Parameters

Log Sequence: First Log In the Well Rig Up Length At Surface: 0.00 FT Rig Up Length At Bottom: 0.00 FT Rig Up Length Correction: 0.00 FT Stretch Correction: Tool Zero Check At Surface:
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### Depth Control Remarks

<ol style="list-style-type: none"> <li>1. ALL SCHLUMBERGER DEPTH CONTROL PROCEDURES USED</li> <li>2. IDW USED AS PRIMARY DEPTH REFERENCE</li> <li>3. SPWT DRUM COUNTER USED AS SECONDARY DEPTH REFERENCE</li> <li>4.</li> <li>5.</li> <li>6.</li> </ol>
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#### DISCLAIMER

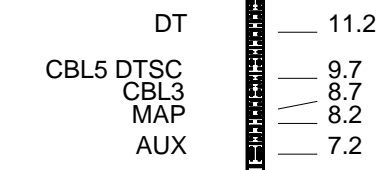
THE USE OF AND RELIANCE UPON THIS RECORDED-DATA BY THE HEREIN NAMED COMPANY (AND ANY OF ITS AFFILIATES, PARTNERS, REPRESENTATIVES, AGENTS, CONSULTANTS AND EMPLOYEES) IS SUBJECT TO THE TERMS AND CONDITIONS AGREED UPON BETWEEN SCHLUMBERGER AND THE COMPANY, INCLUDING: (a) RESTRICTIONS ON USE OF THE RECORDED-DATA; (b) DISCLAIMERS AND WAIVERS OF WARRANTIES AND REPRESENTATIONS REGARDING COMPANY'S USE OF AND RELIANCE UPON THE RECORDED-DATA; AND (c) CUSTOMER'S FULL AND SOLE RESPONSIBILITY FOR ANY INFERENCE DRAWN OR DECISION MADE IN CONNECTION WITH THE USE OF THIS RECORDED-DATA.

OTHER SERVICES1	OTHER SERVICES2
OS1: SLIM CEMENT MAPPING	OS1:
OS2: LOG	OS2:
OS3: CBL-VDL	OS3:
OS4: GR-CCL	OS4:
OS5:	OS5:
REMARKS: RUN NUMBER 1	REMARKS: RUN NUMBER 2
FIRST RUN IN HOLE CORRELATED TO DOWN LOG	
TOOL RAN AS PER TOOL SKETCH	
ENTRANCE TIME: 5:30	
TIME ON BOTTOM: 6:15	
EXIT TIME: 8:30	



SCMT-CB  
 SCMC-CA 8120  
 SECH-CA  
 CMIR-AG  
 SCMS-CB 8303  
 SCMX-CA

20.3



AH-BNS

HV  
 Tension SCMT  
 TOOL ZERO  
 0.0

0.2

MAXIMUM STRING DIAMETER 1.72 IN  
 MEASUREMENTS RELATIVE TO TOOL ZERO  
 ALL LENGTHS IN FEET



# MAIN PASS RST SIGMA

MAXIS Field Log

## Input DLIS Files

DEFAULT	SCMT_RST_PSP_065LUP	FN:61	PRODUCER	22-Oct-2013 06:05	8648.0 FT	6.2 FT
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## Output DLIS Files

DEFAULT	SCMT_RST_PSP_068PUP	FN:64	PRODUCER	22-Oct-2013 08:28	8654.0 FT	-32.0 FT
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## OP System Version: 19C0-187

SCMT-CB PSPT	SRPC-5214-H2-2012-OP1! SRPC-5214-H2-2012-OP1!	RST-C	SRPC-5214-H2-2012-OP1!
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### PIP SUMMARY

Time Mark Every 60 S

Crossover in sand  
 From RST\_CIRF\_FIL to RST\_CIRN\_FIL

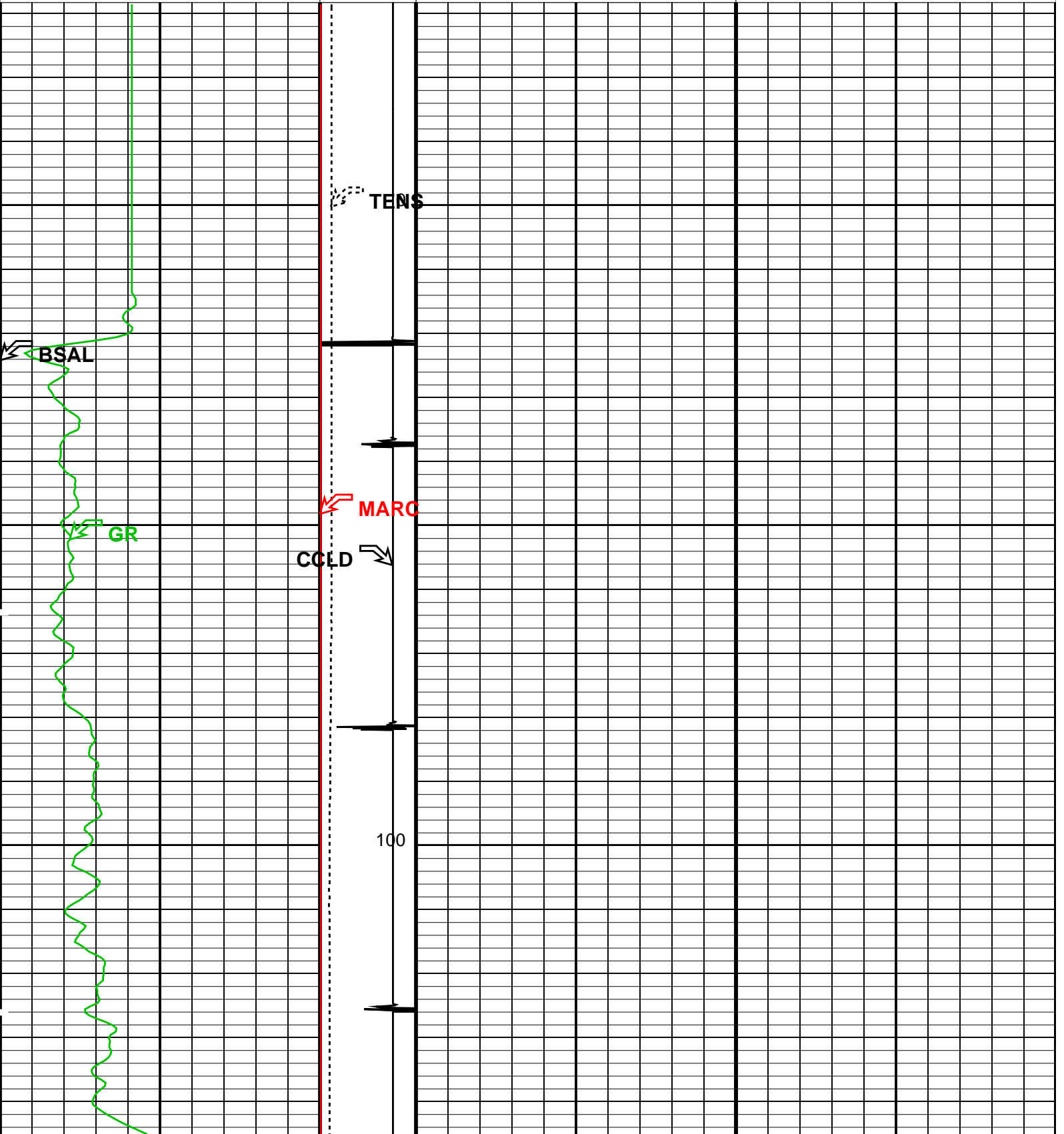
WINR Gas Flag  
 From WINR to RST\_CIRF\_FIL

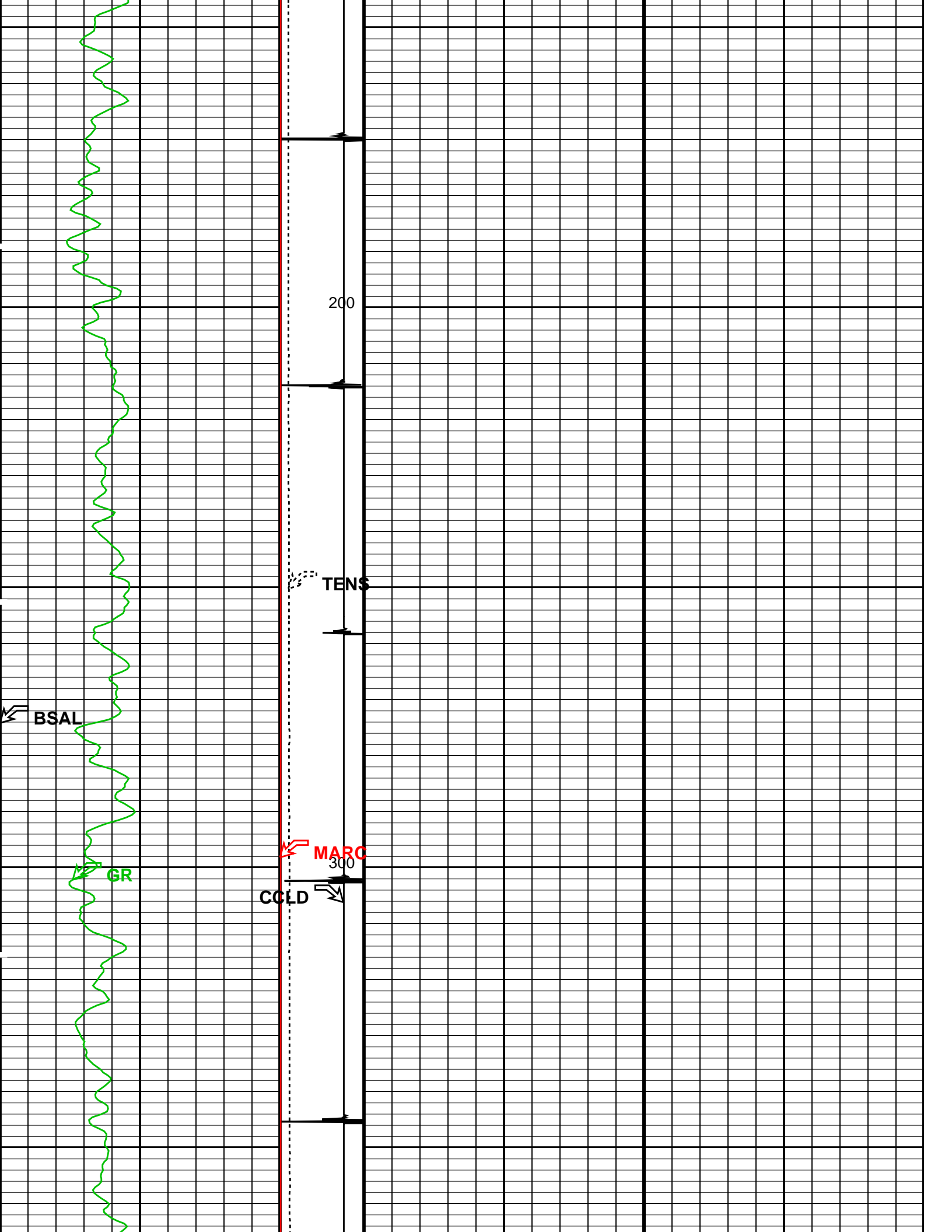
RST Weighted Inelastic Ratio (WINR\_RST)  
 0.4 (----) 0

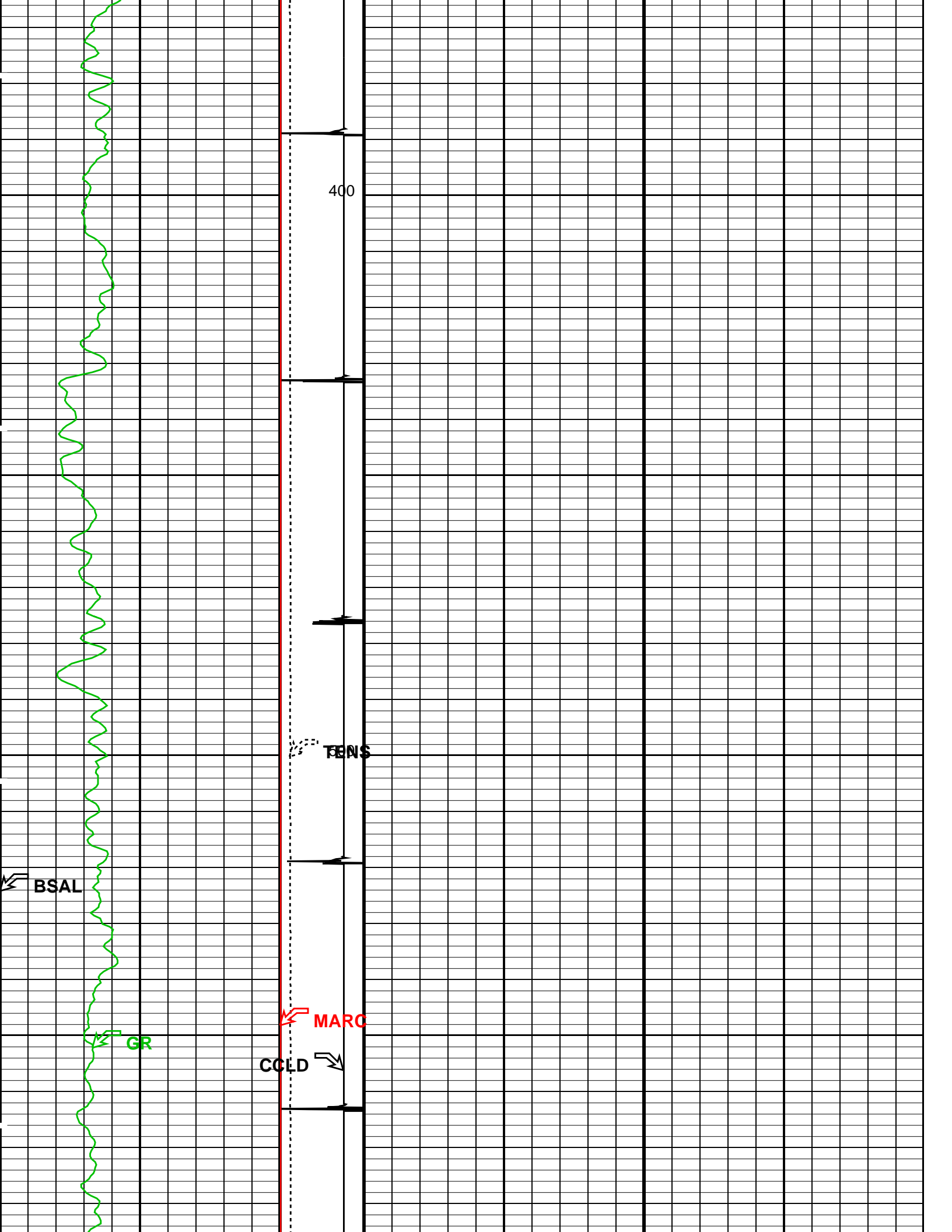
Minitron  
 App

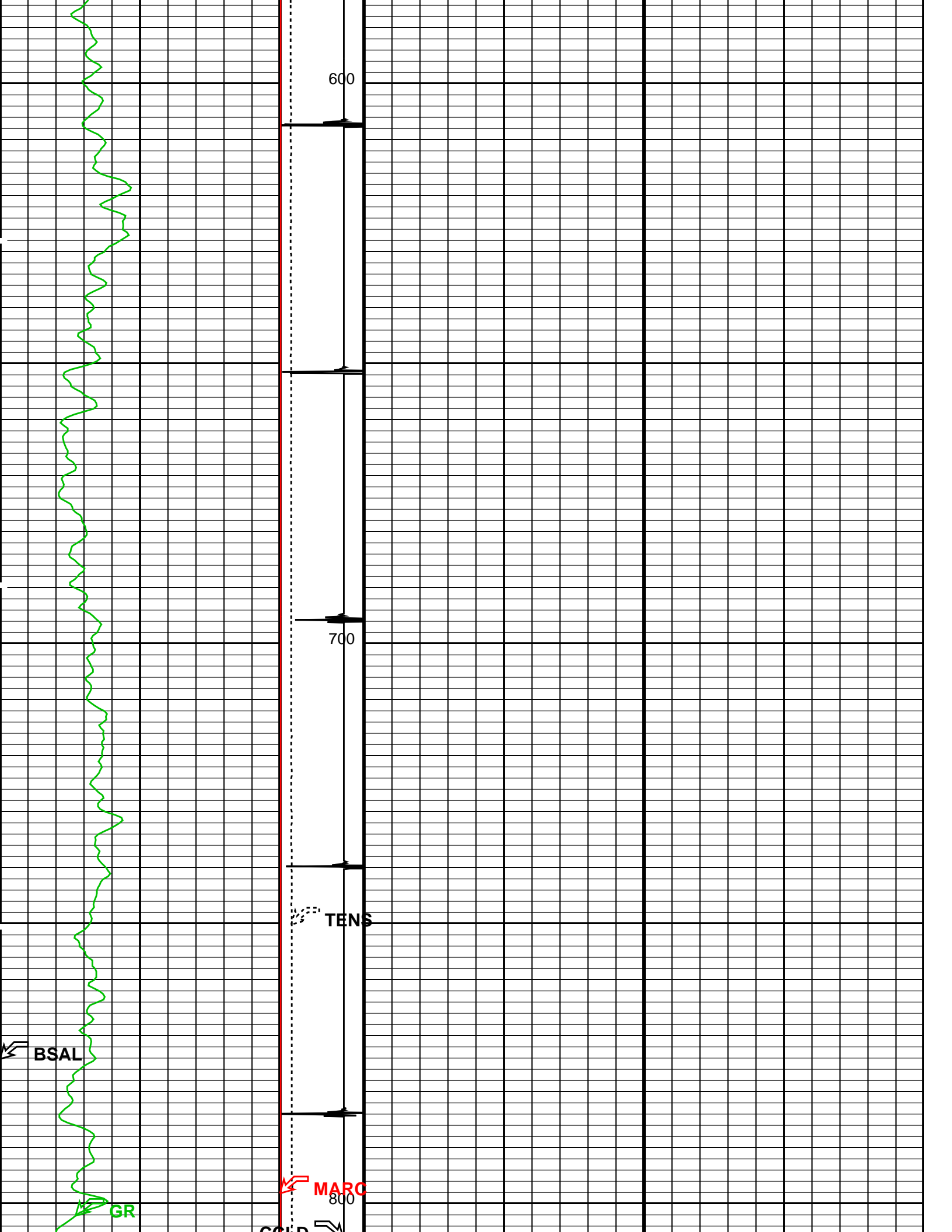
RST Capture to Inelastic Ratio For

	Arc Detection (MARC) 0 (---- 5)	RST Porosity (TPHI) (VV) 0.5	RST Capture to Inelastic Ratio Far (CIRF_FIL) (----) 0
RST Borehole Salinity (BSAL) (PPK) 450 -50	Discriminat ed CCL (CCLD) 3 (V) -1	RST Sigma (SIGM) (CU) 60 0	
Gamma Ray (GR) (GAPI) 0 150	Tension (TENS) (LBF) 0 2000	RST Inelastic Ratio (IRAT_FIL) (----) 0.75	RST Capture to Inelastic Ratio Near (CIRN_FIL) (----) 2.5 0









600

700

800

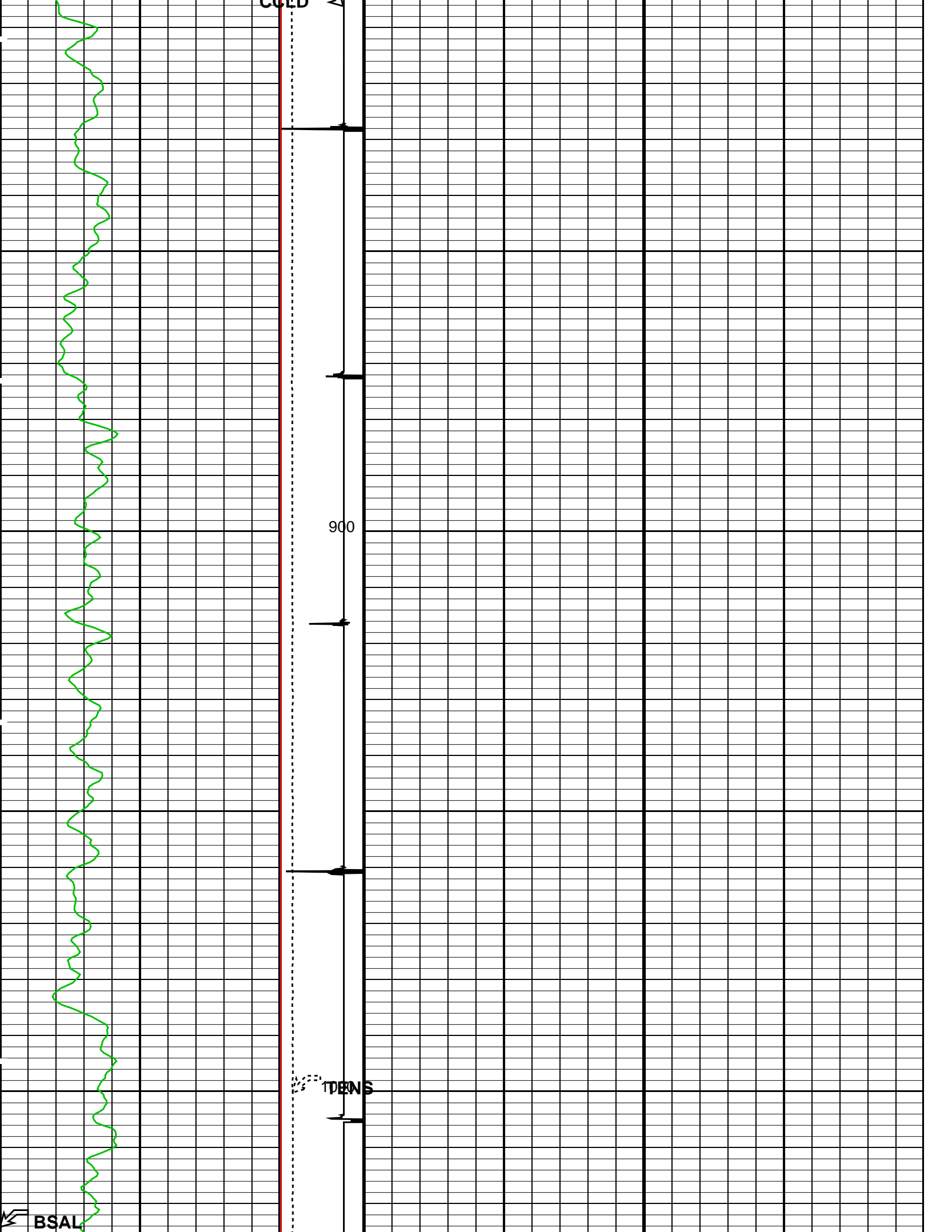
TENS

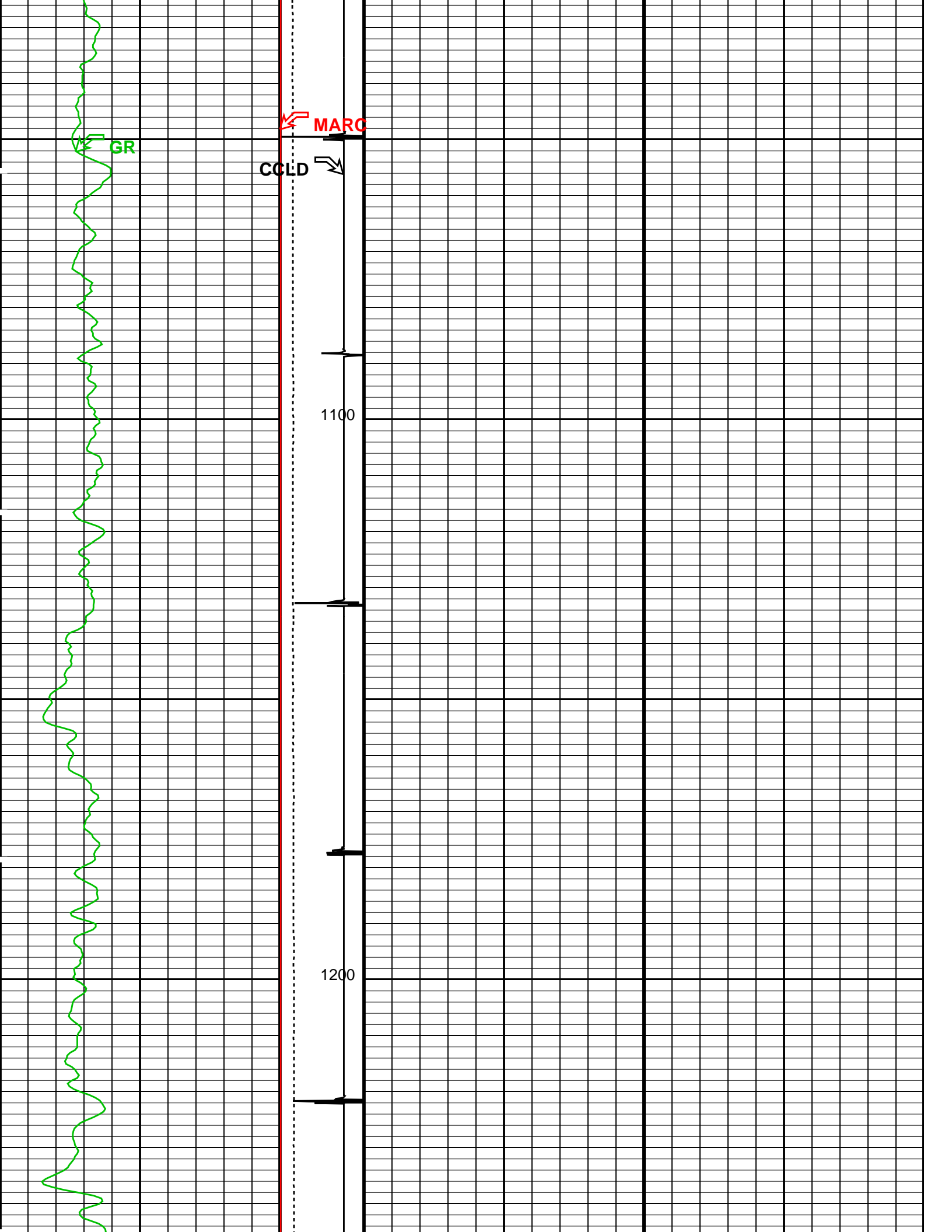
BSAL

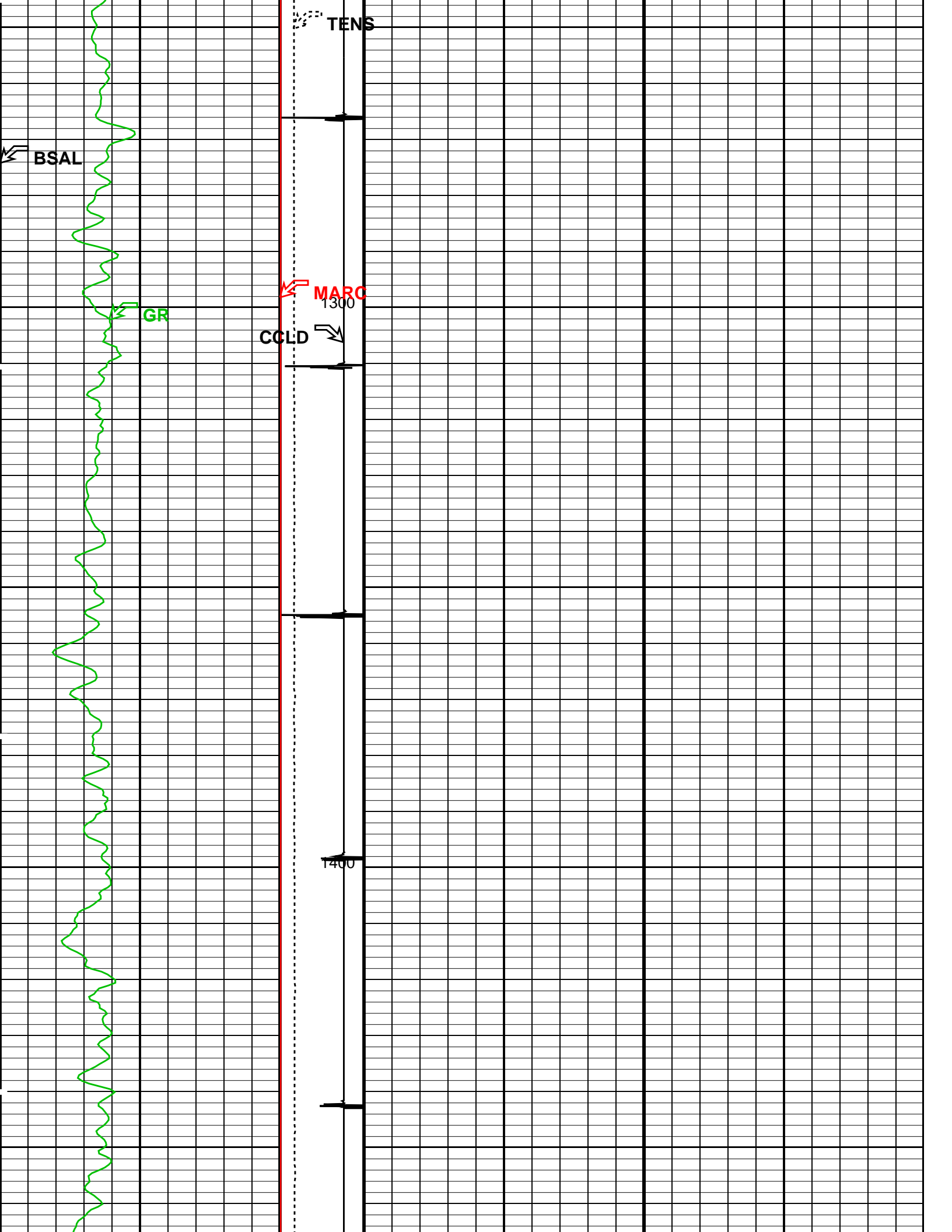
MARC

GR

CORP







TENS

BSAL

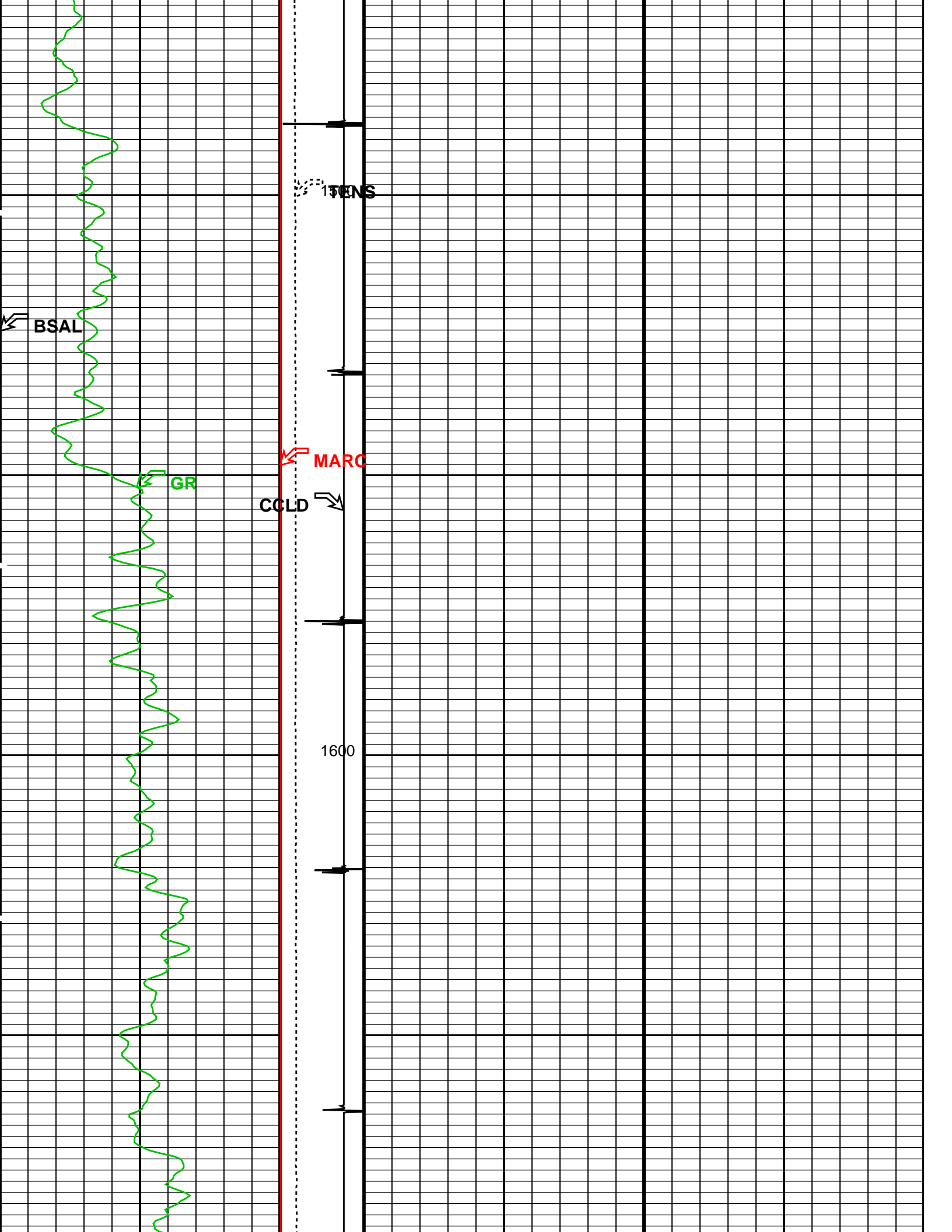
MARC

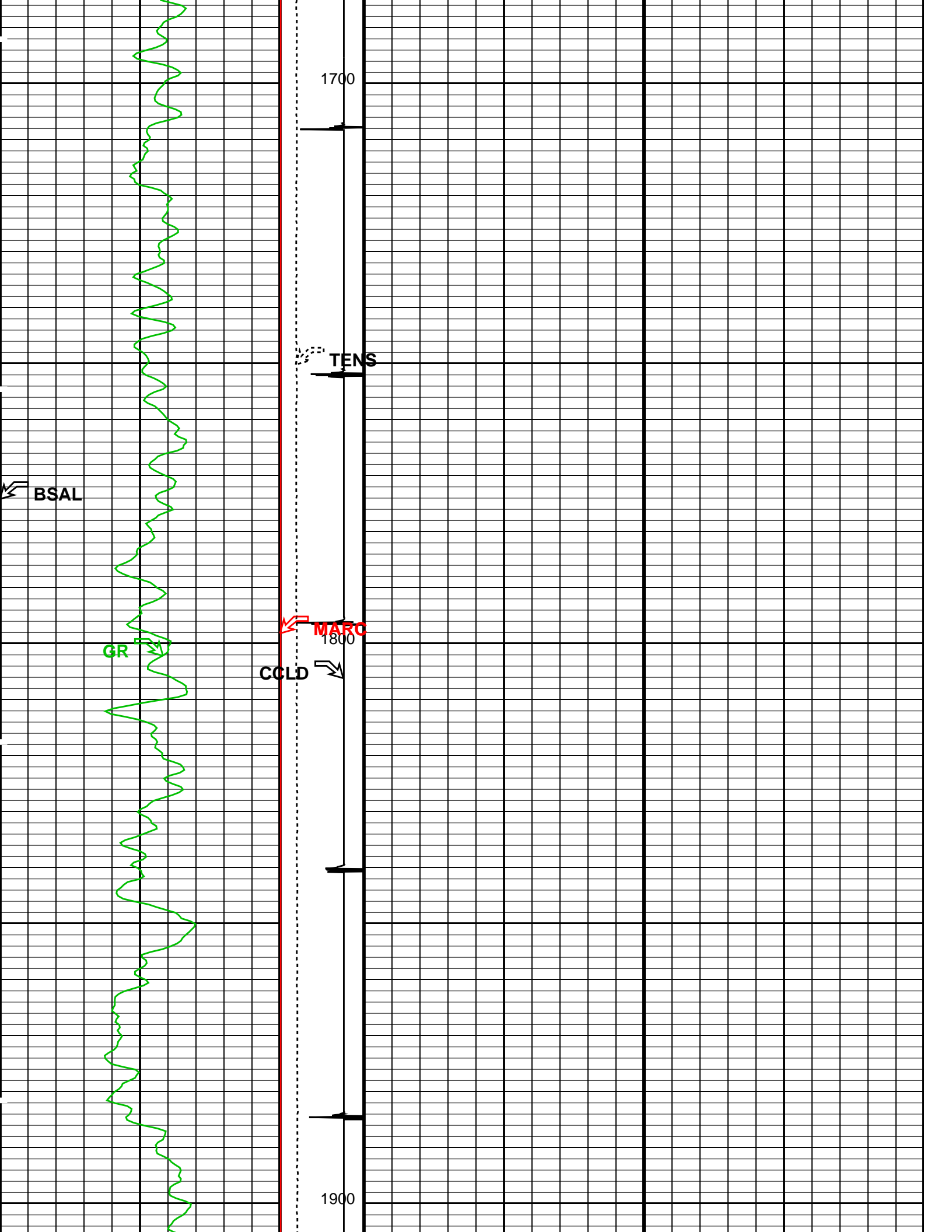
GR

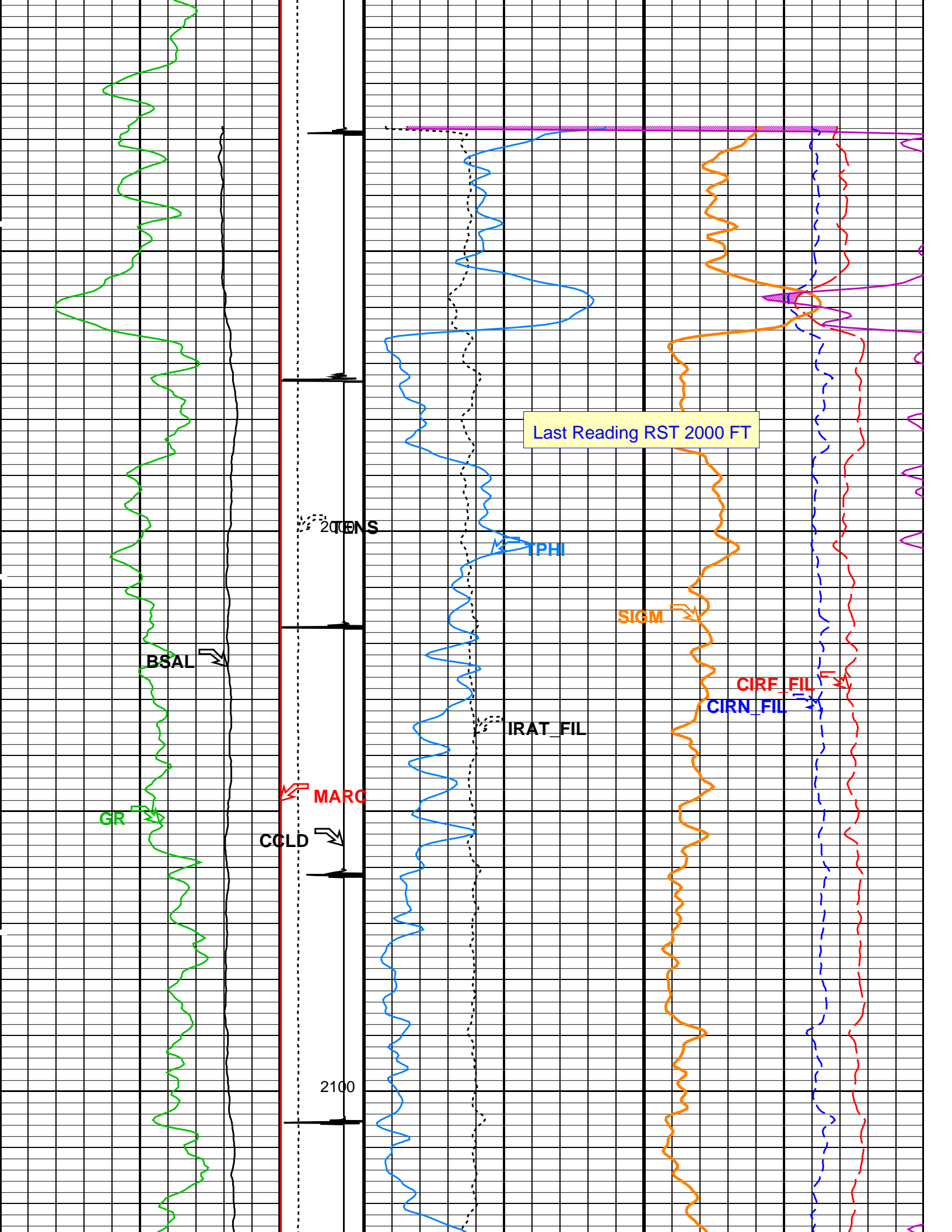
CCLD

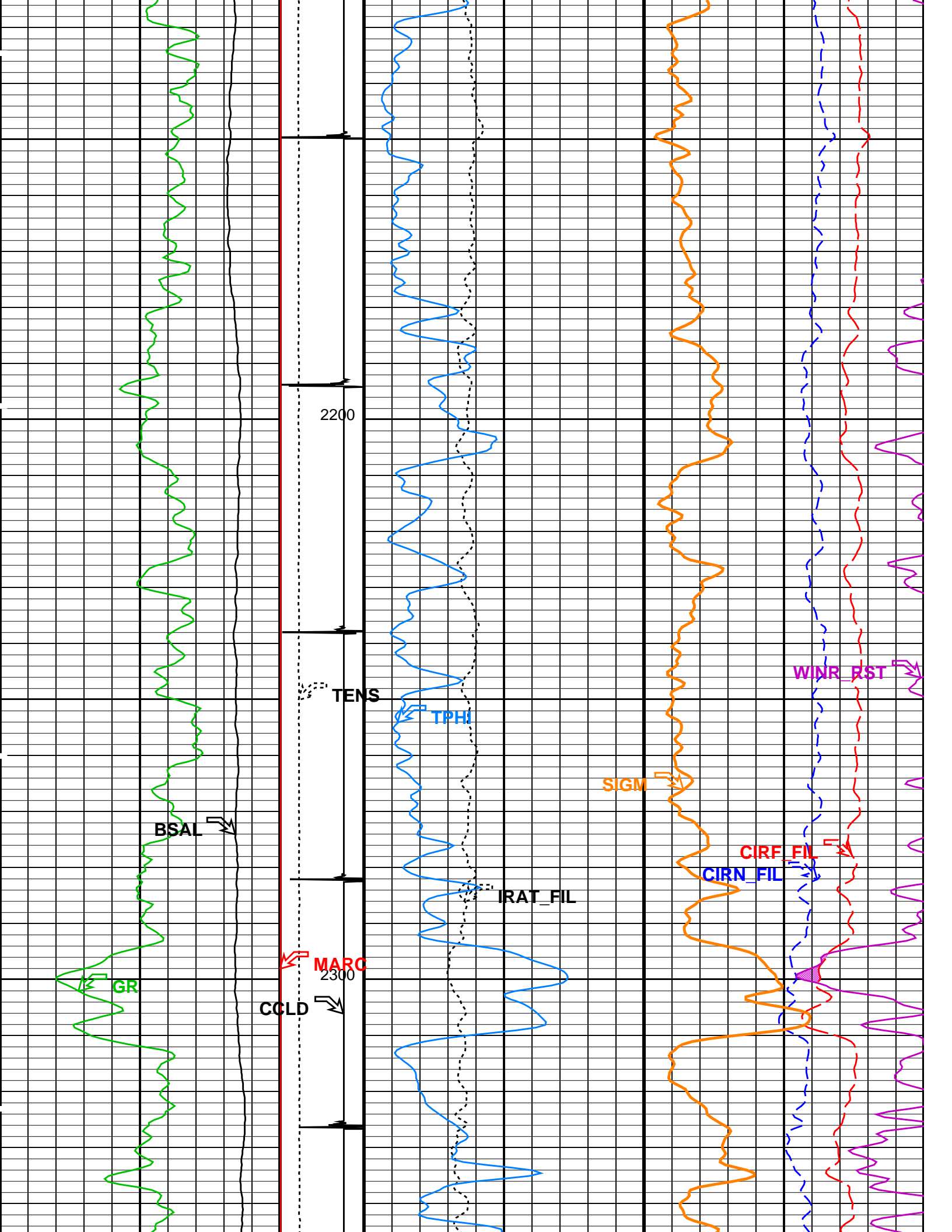
1300

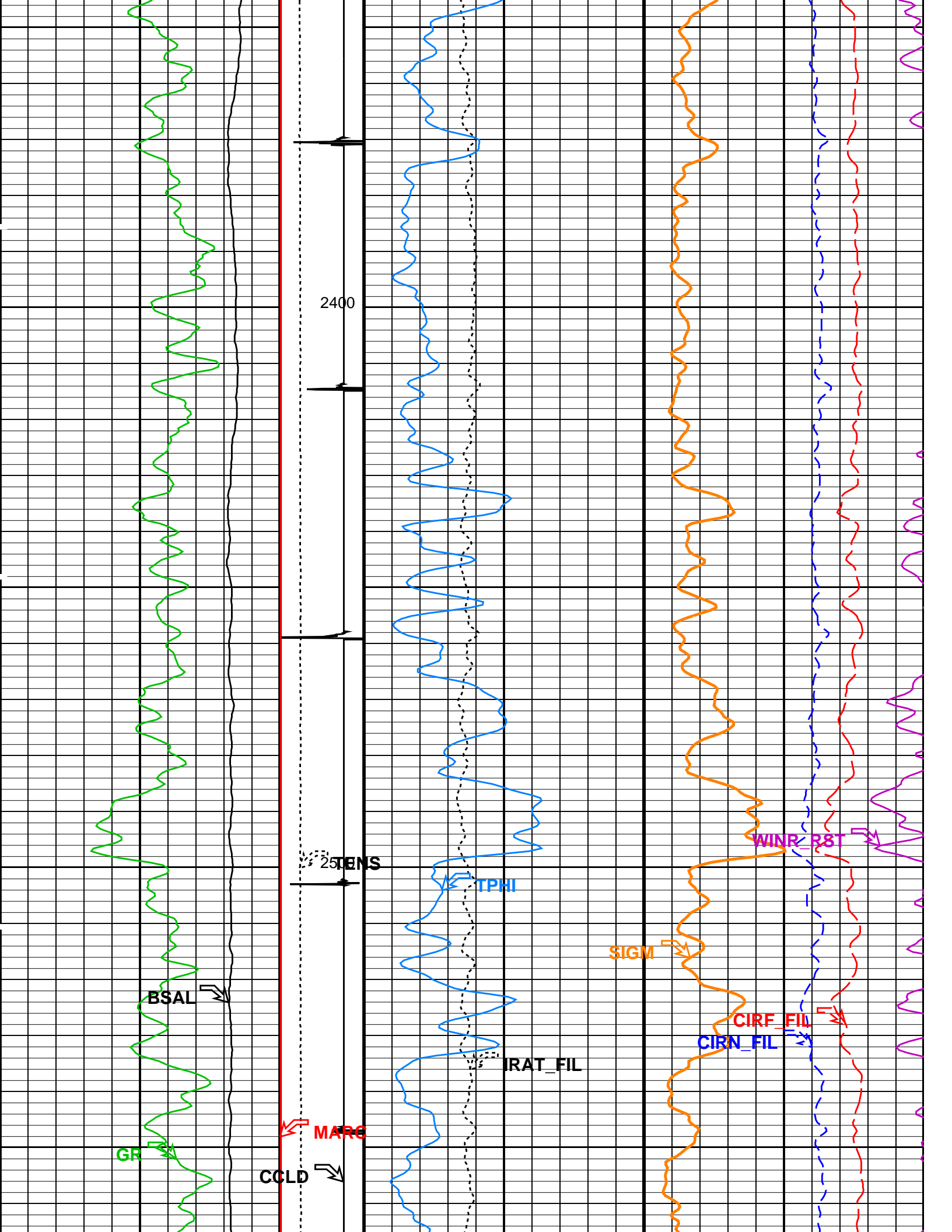
1400

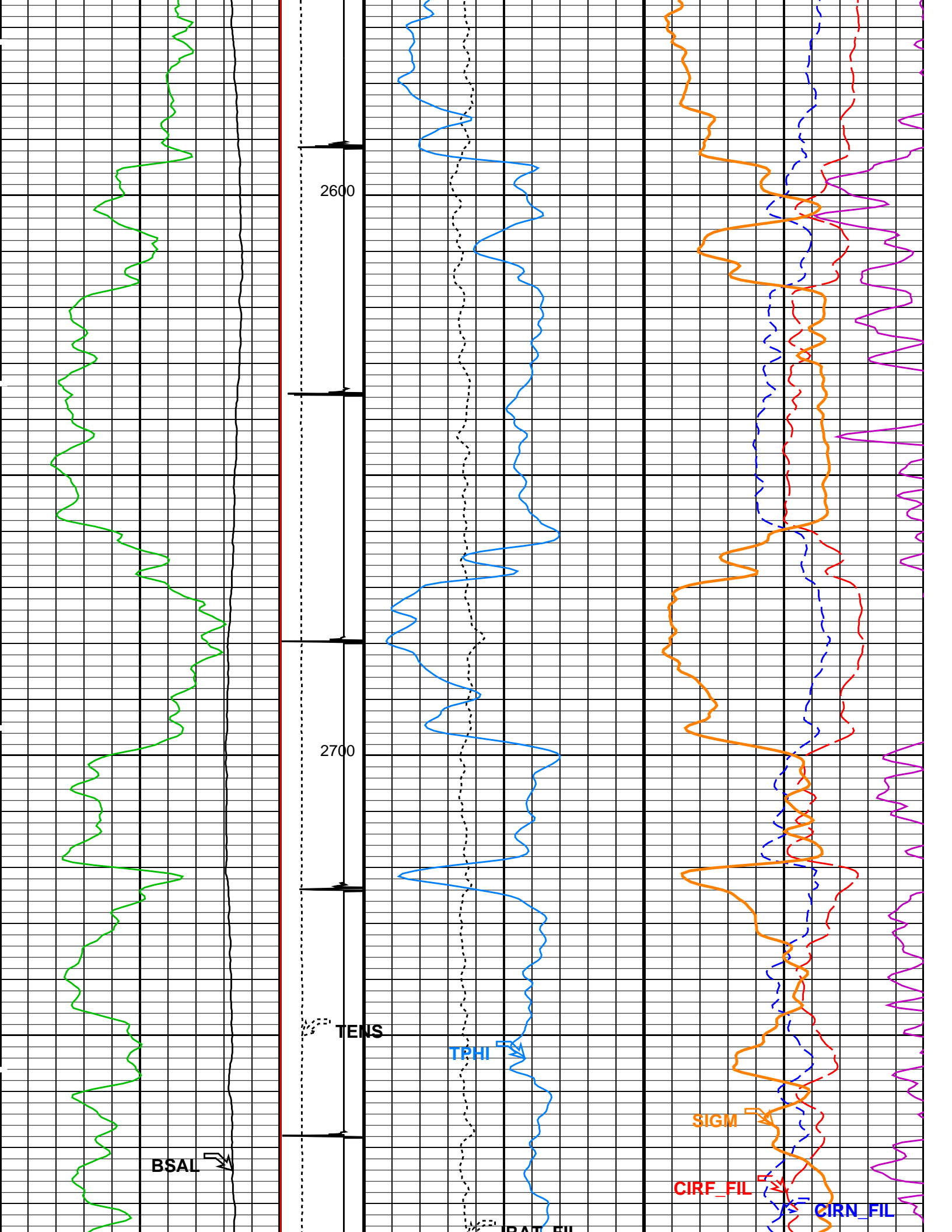


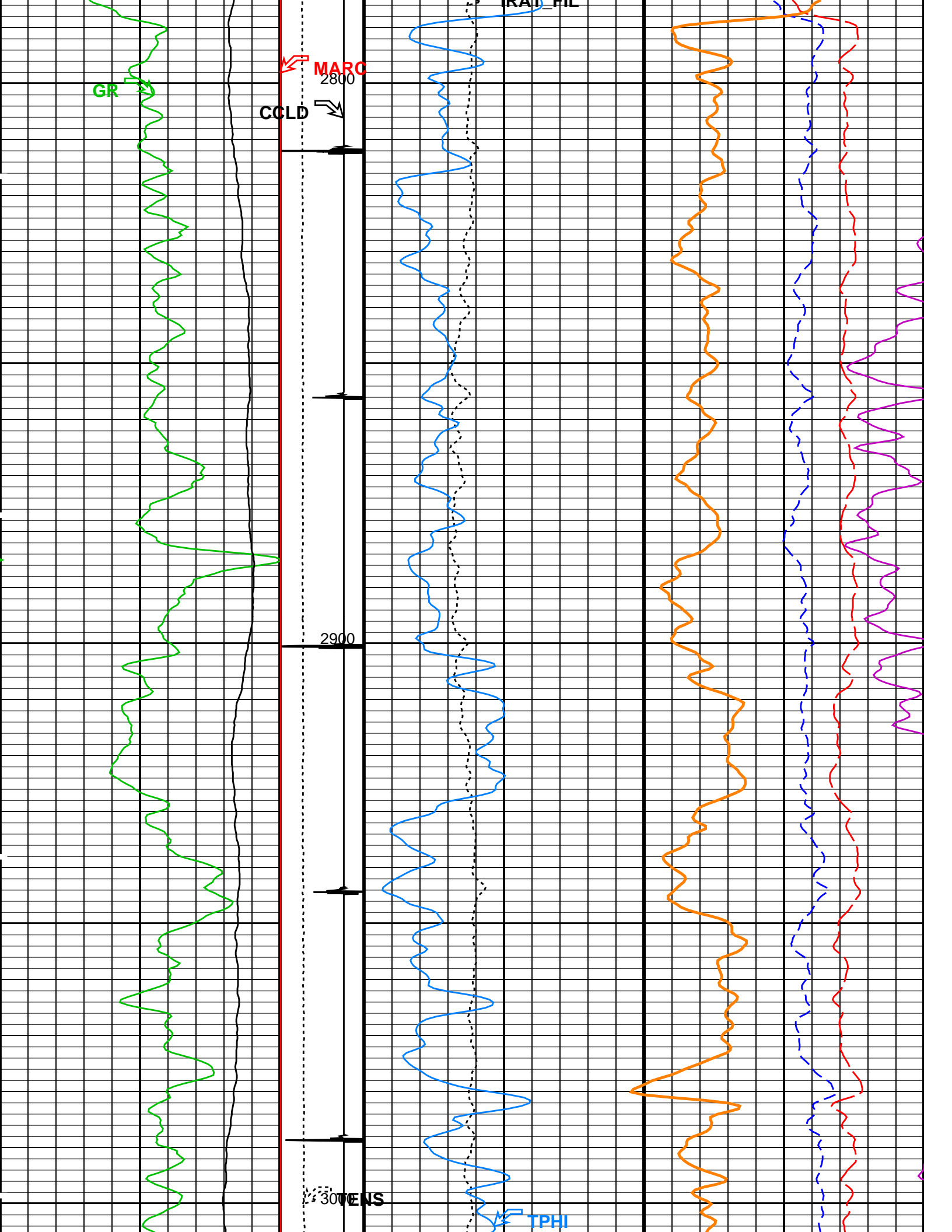


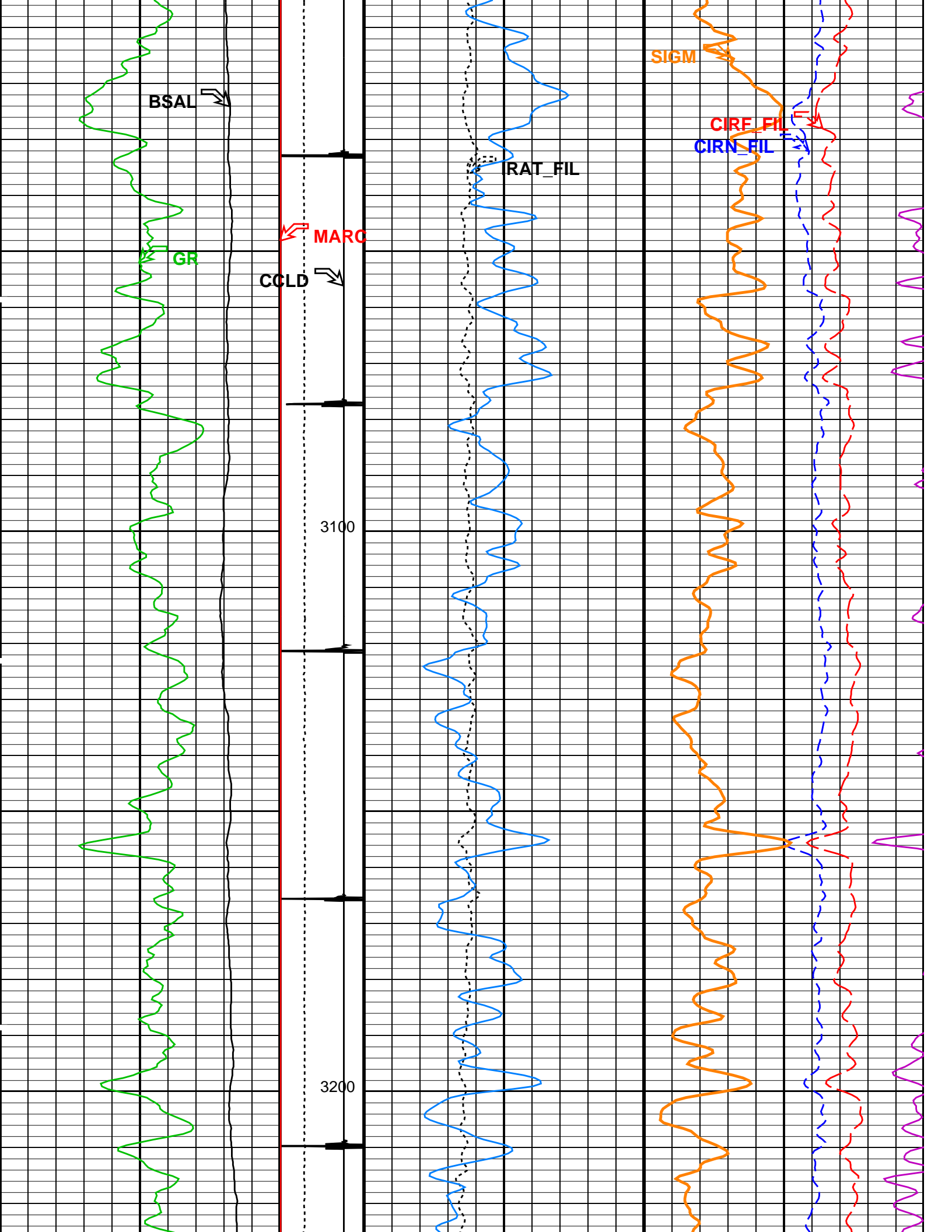


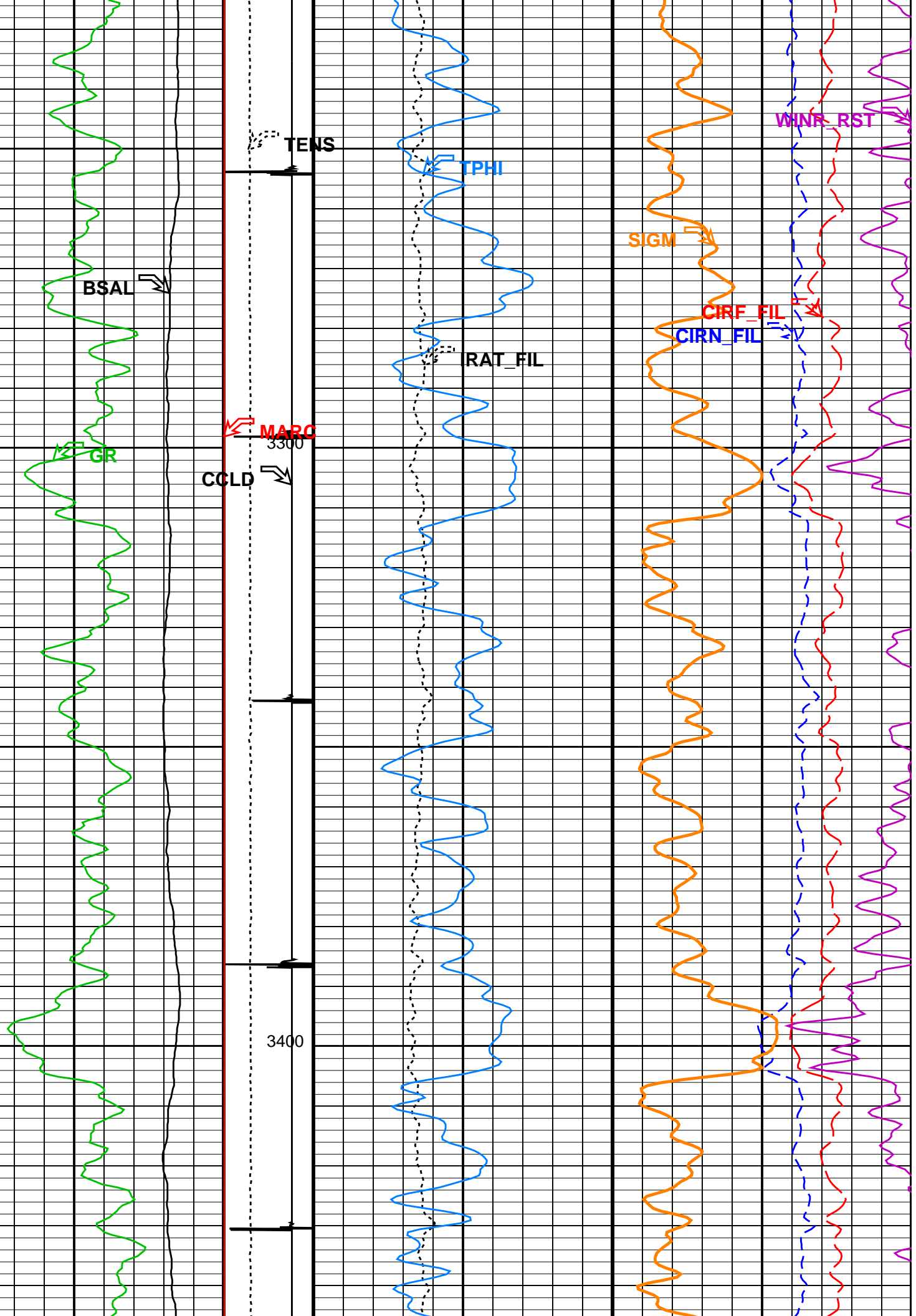


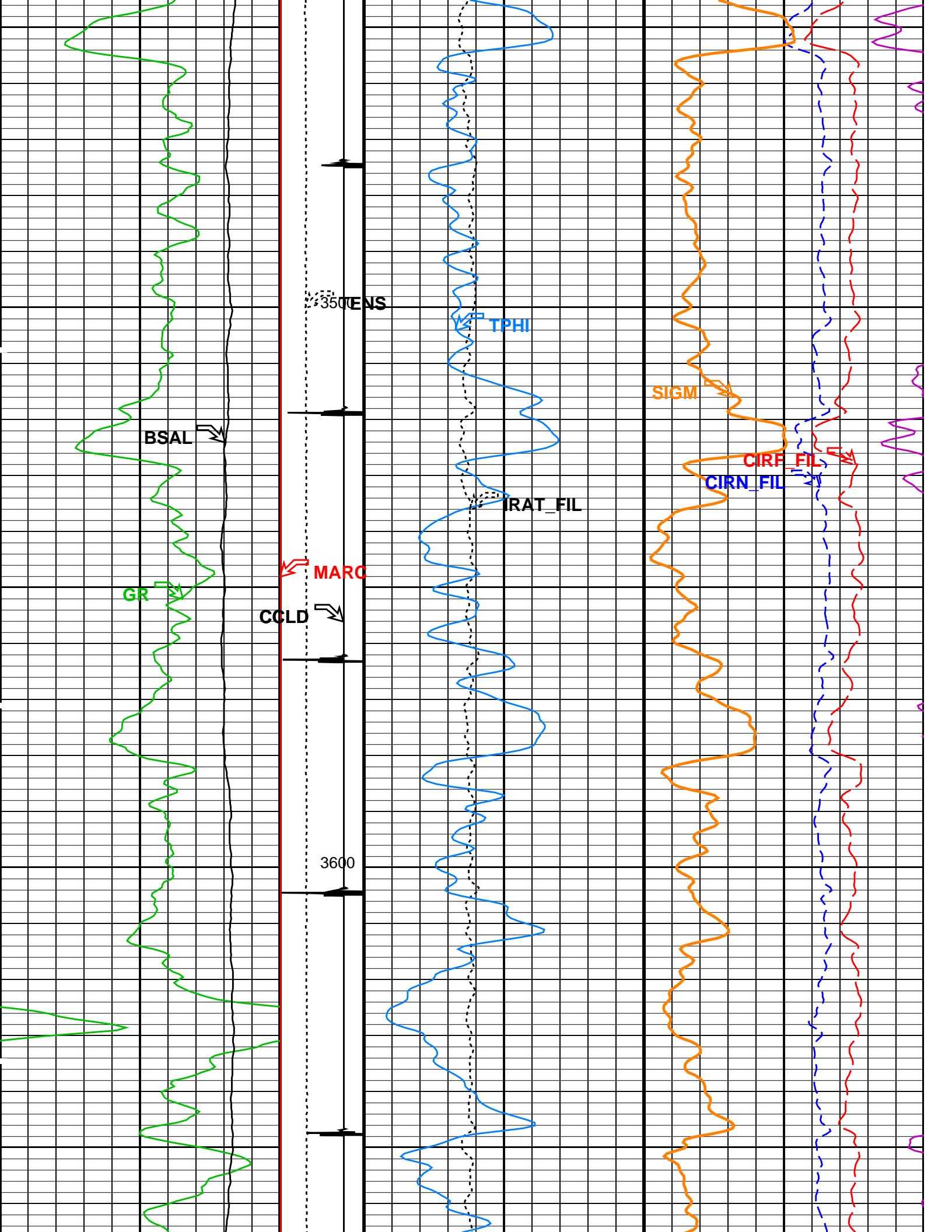


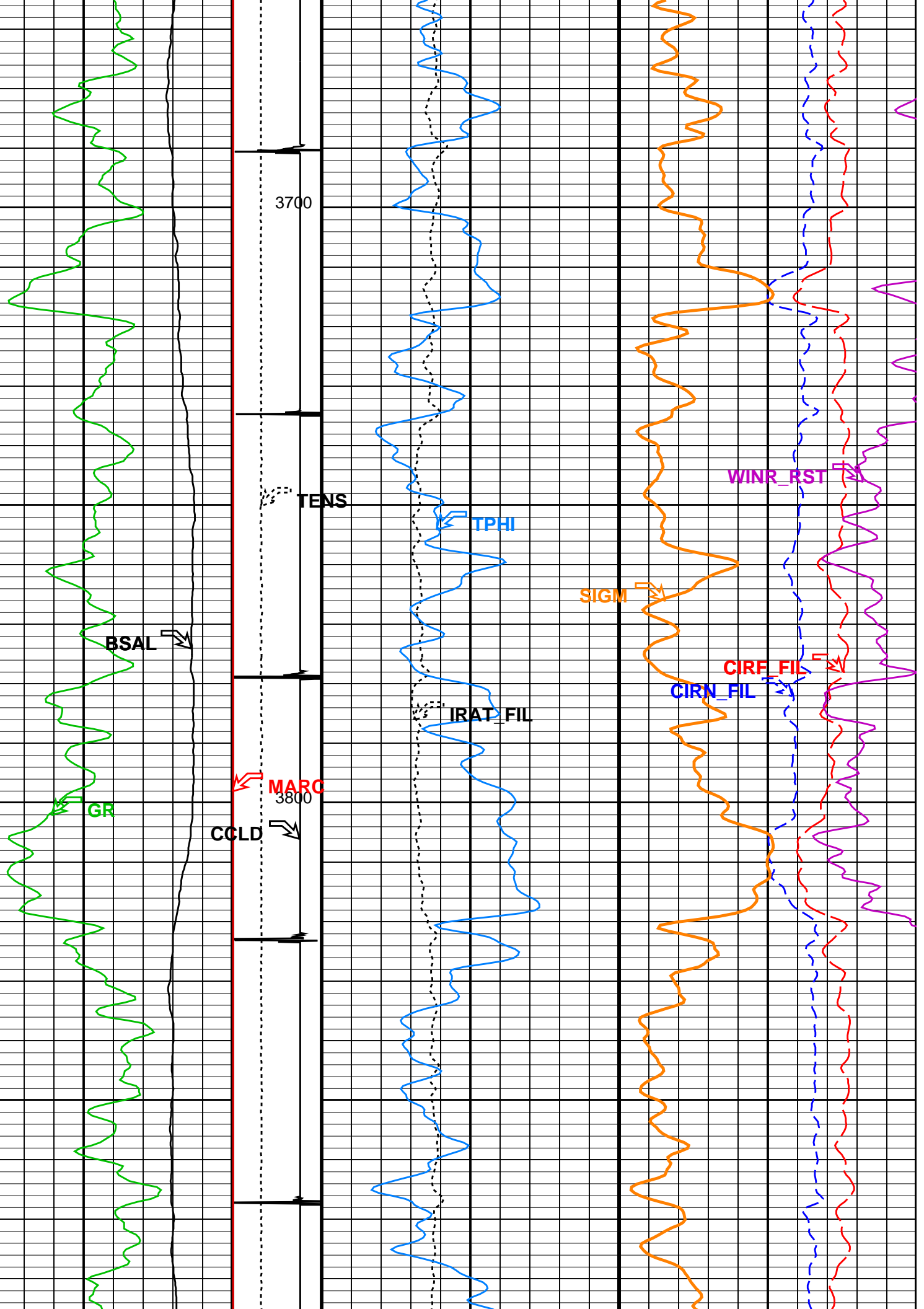


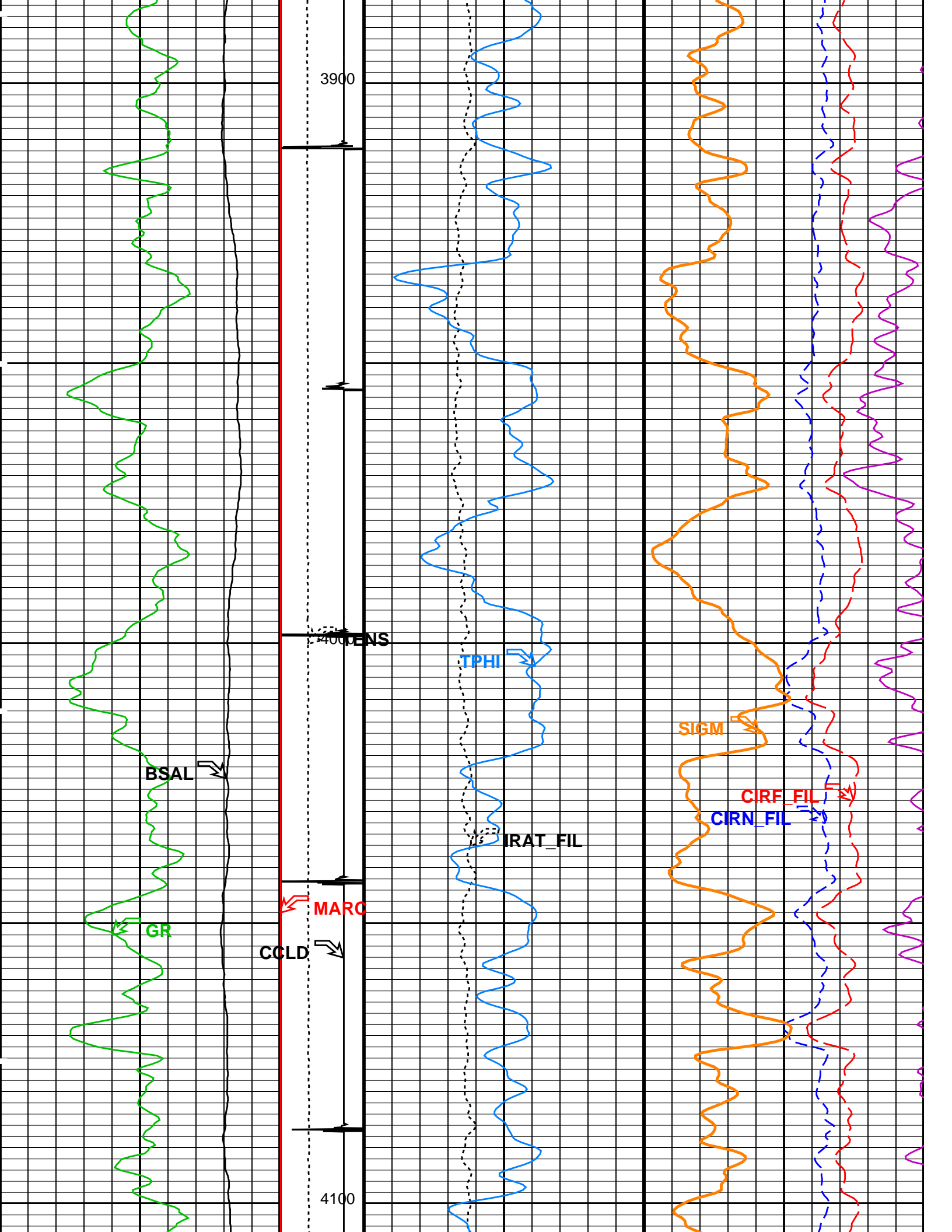


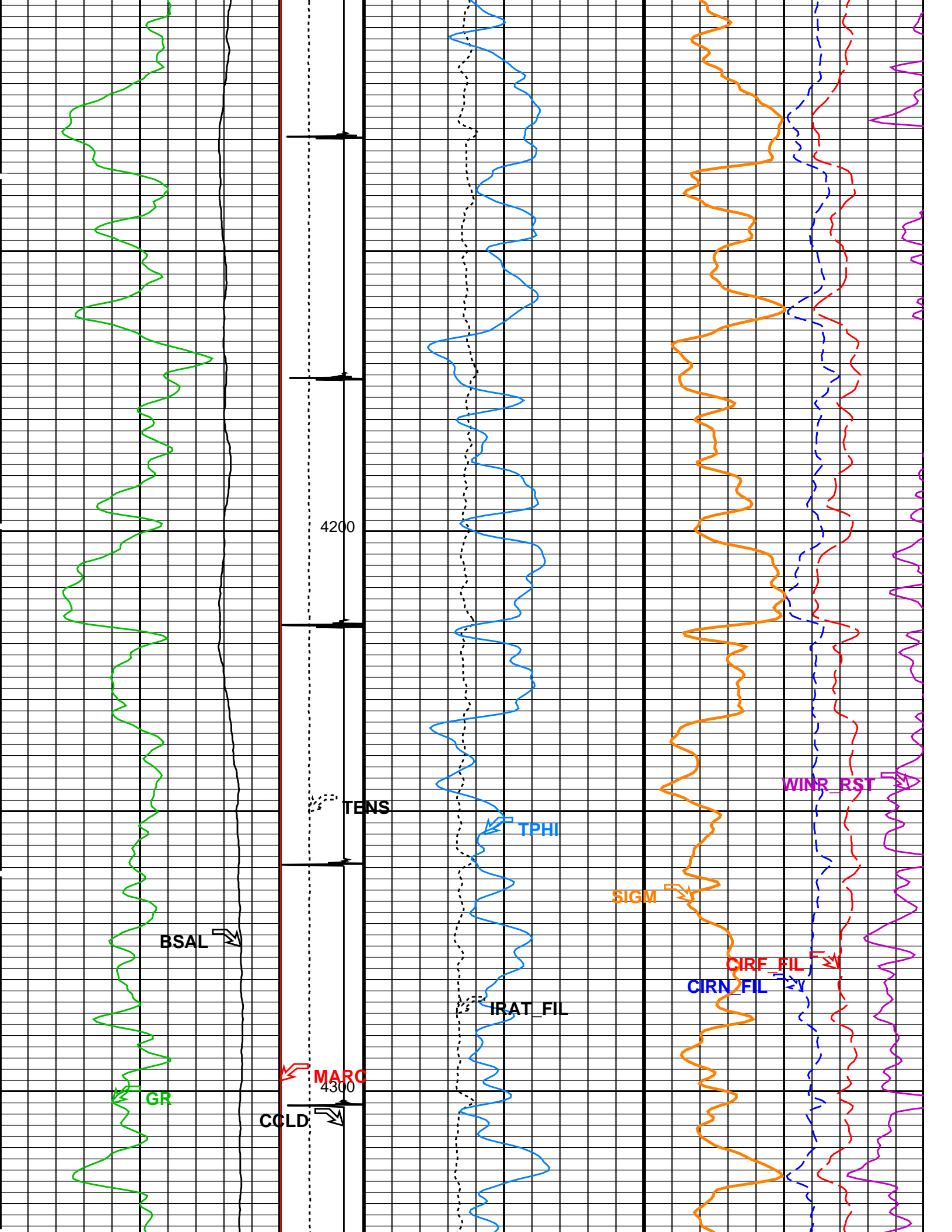


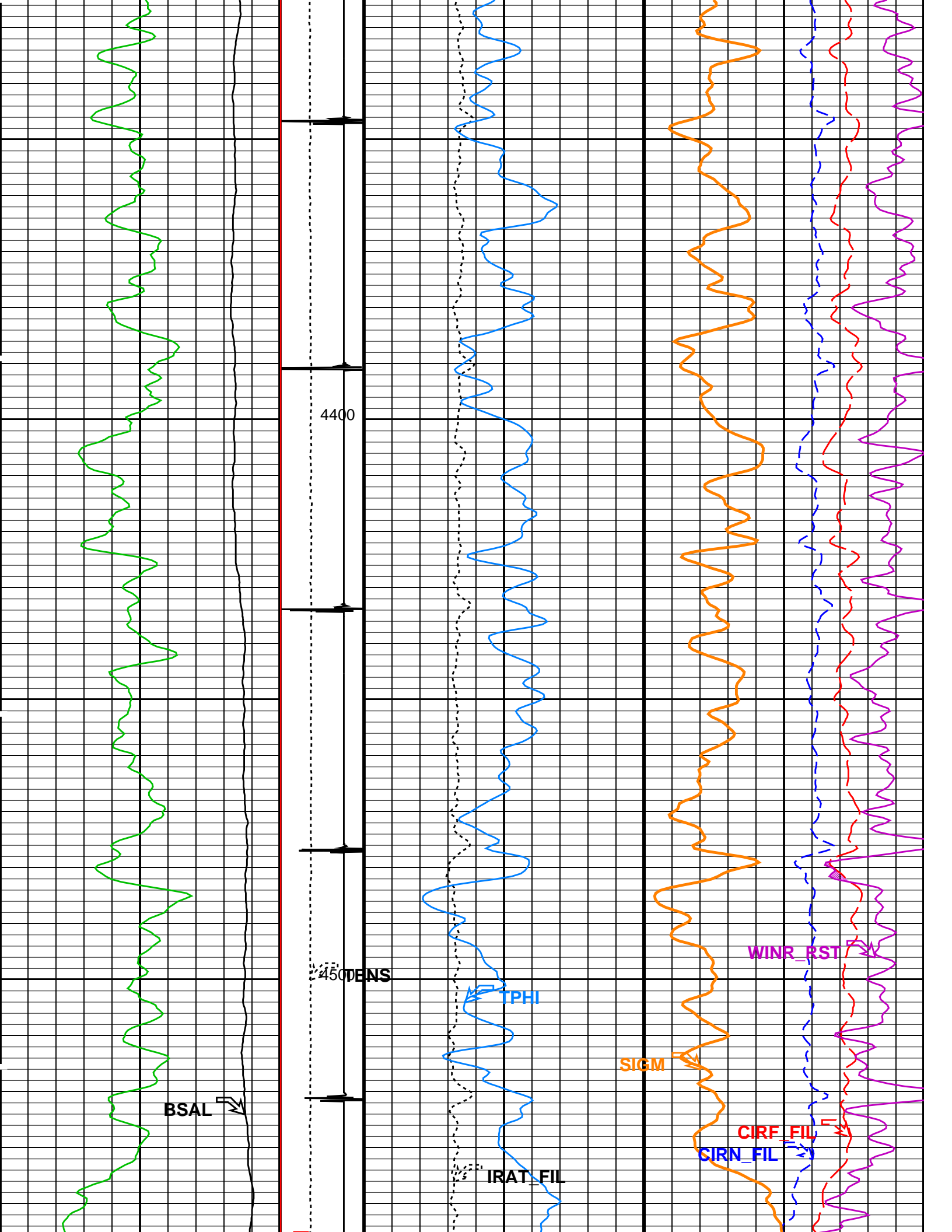


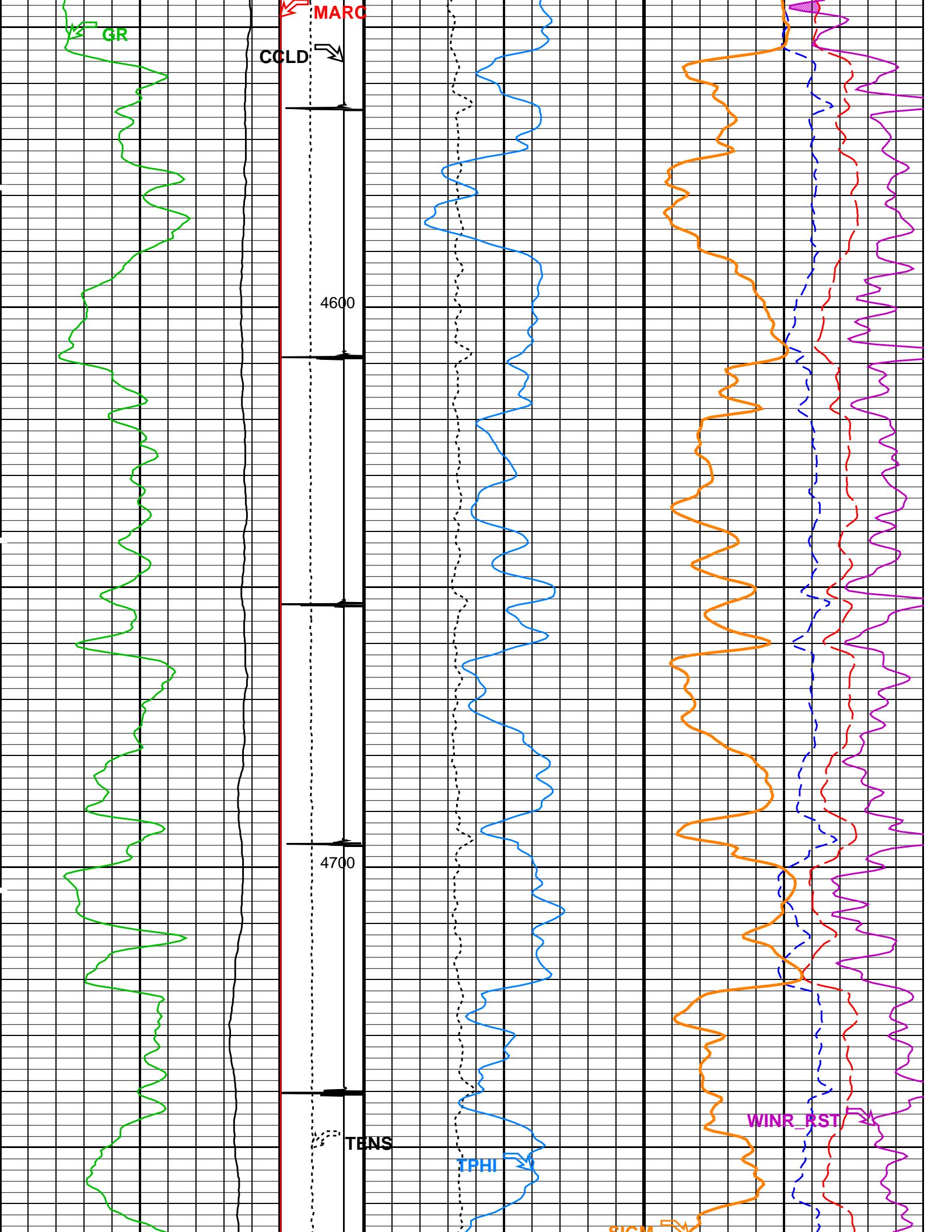


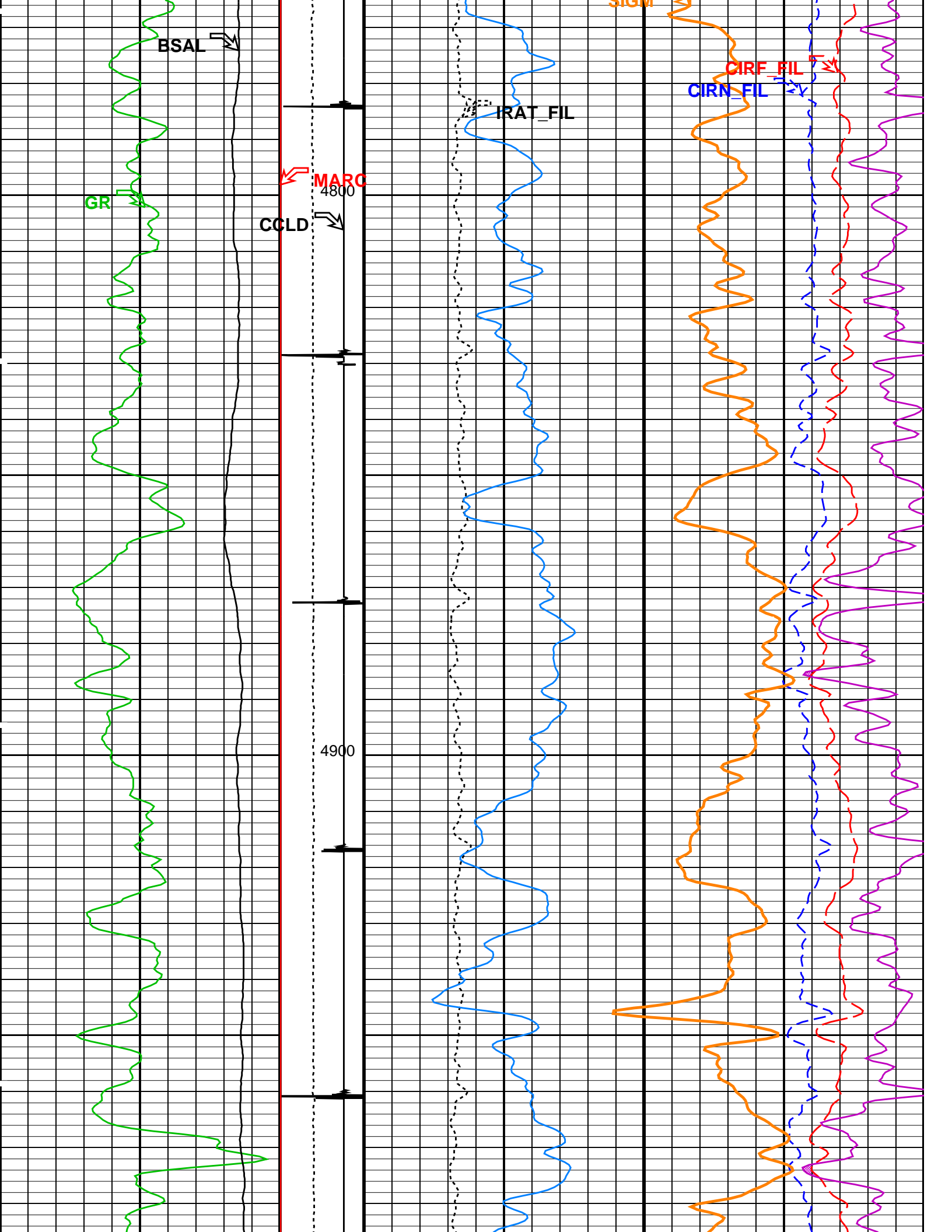


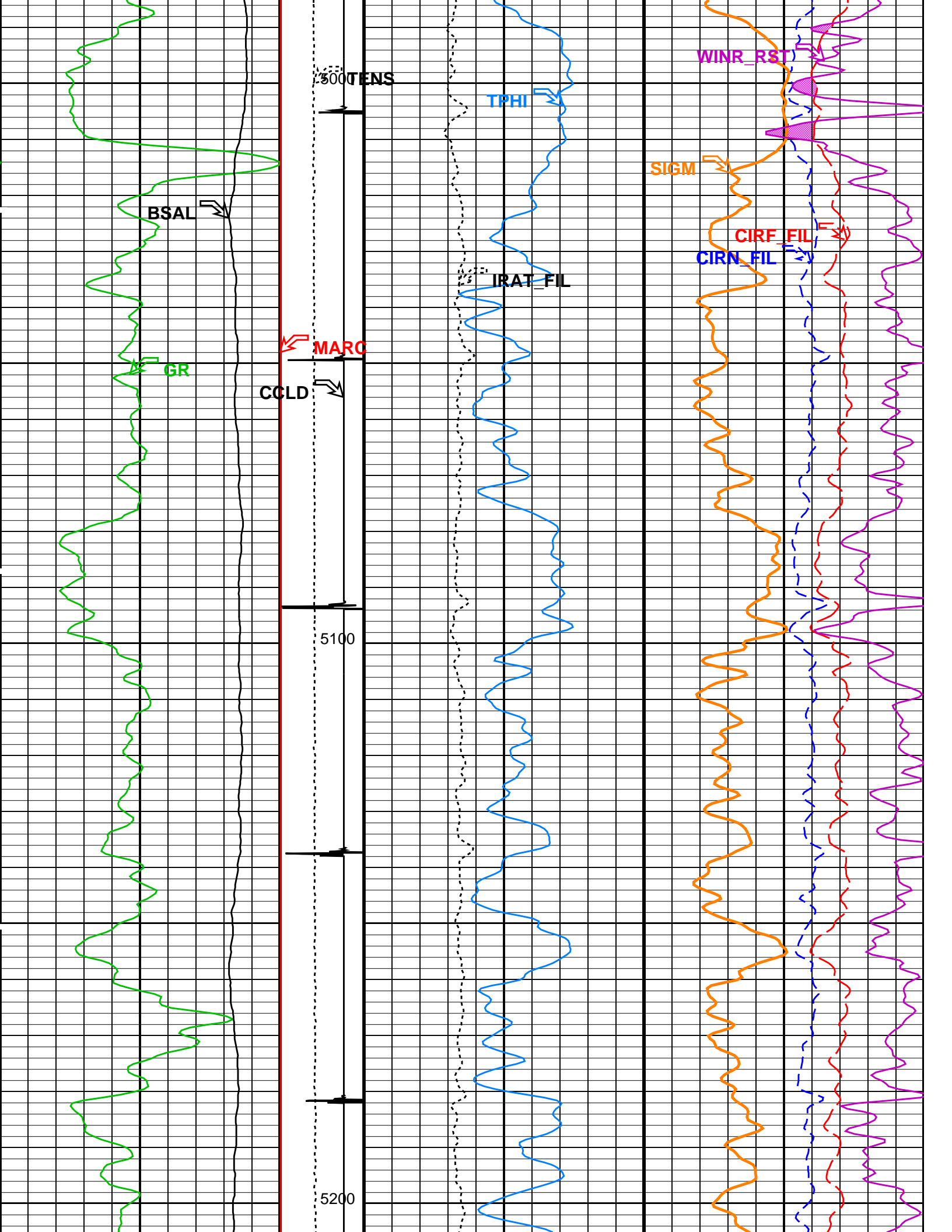


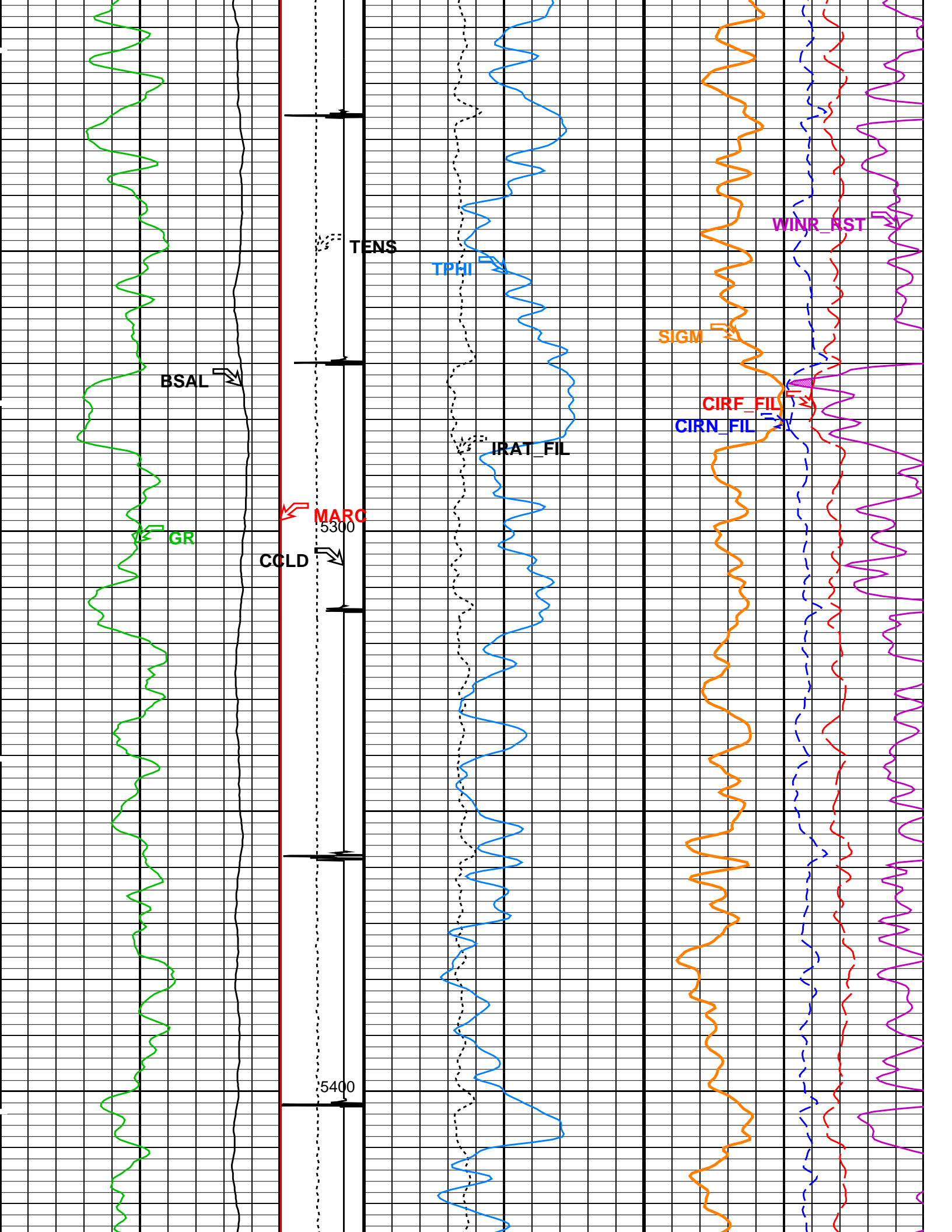


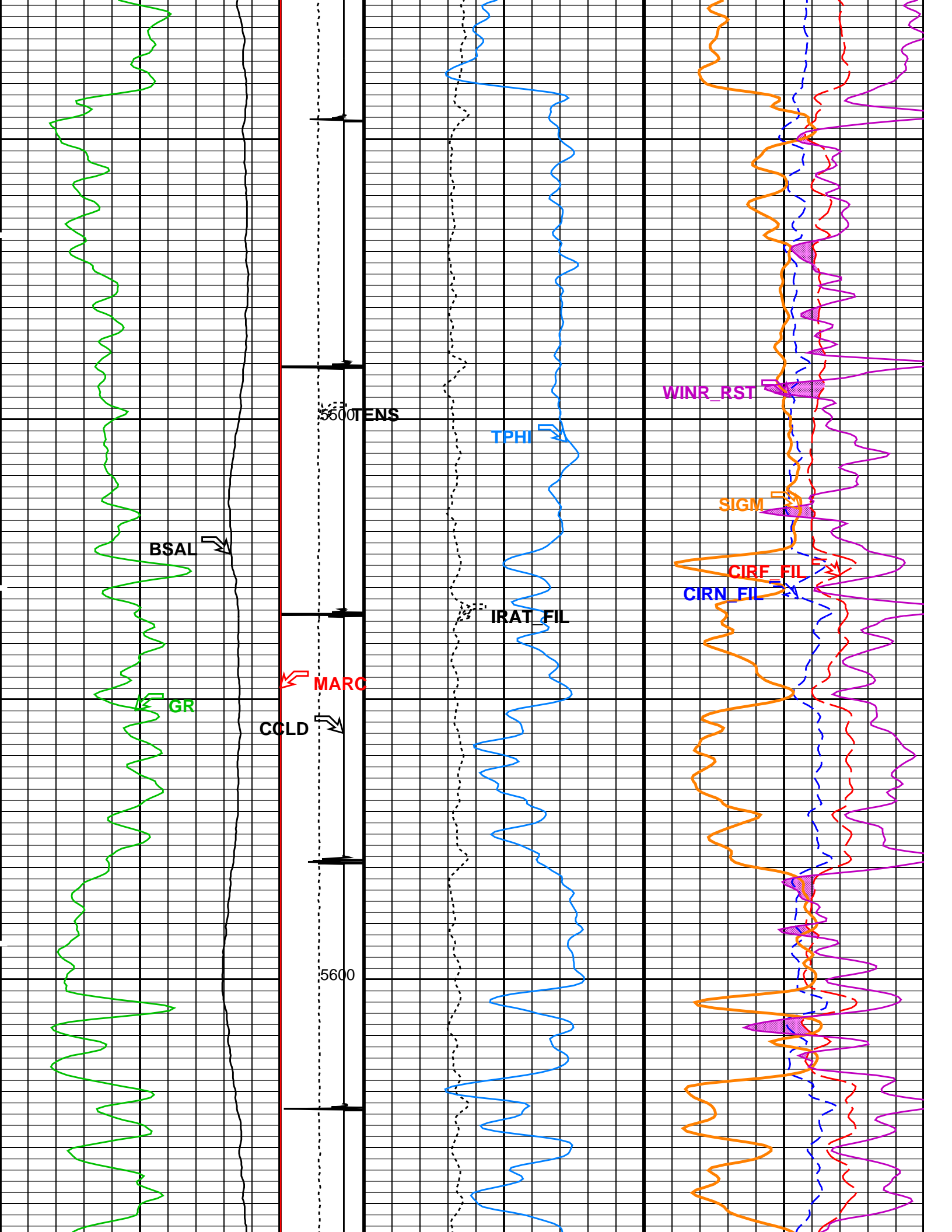


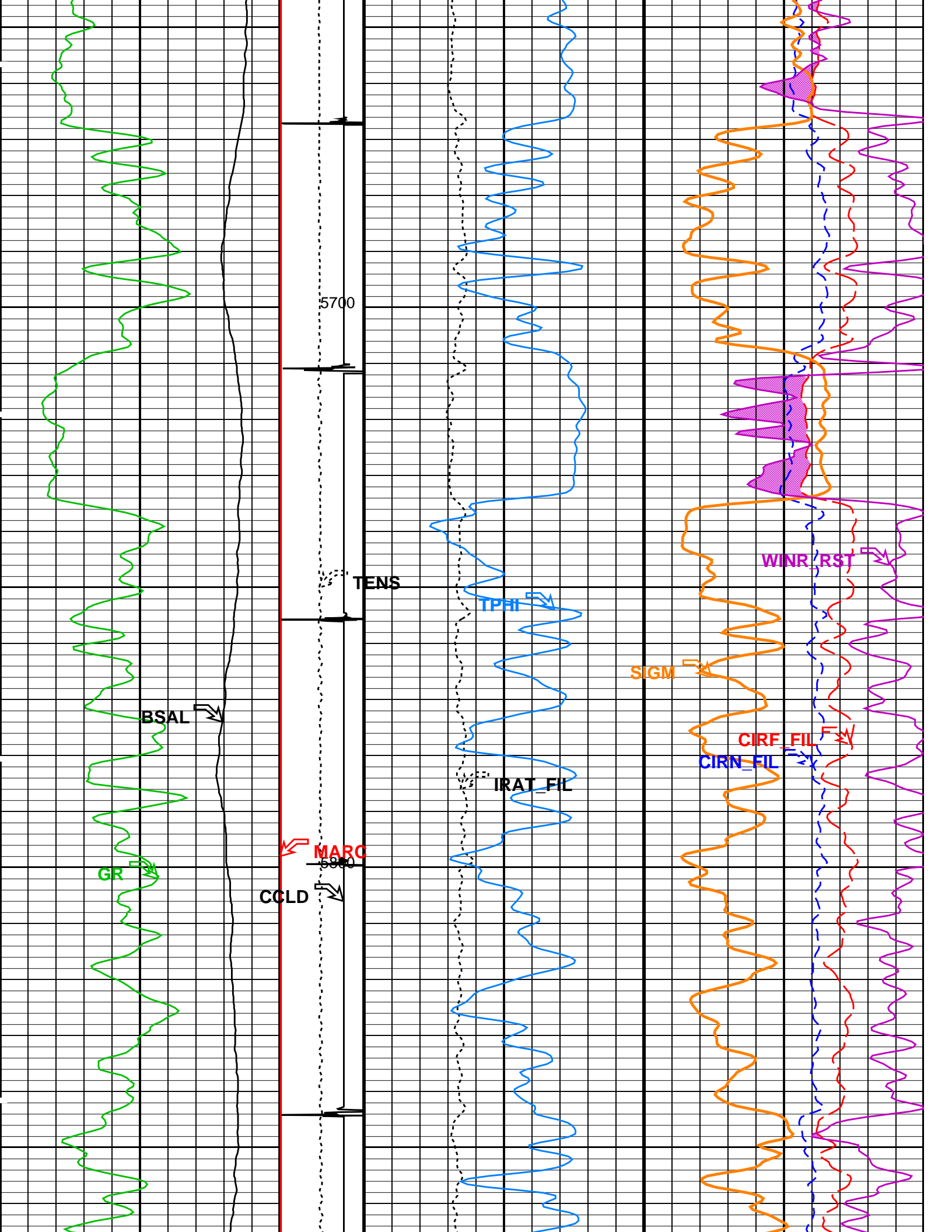


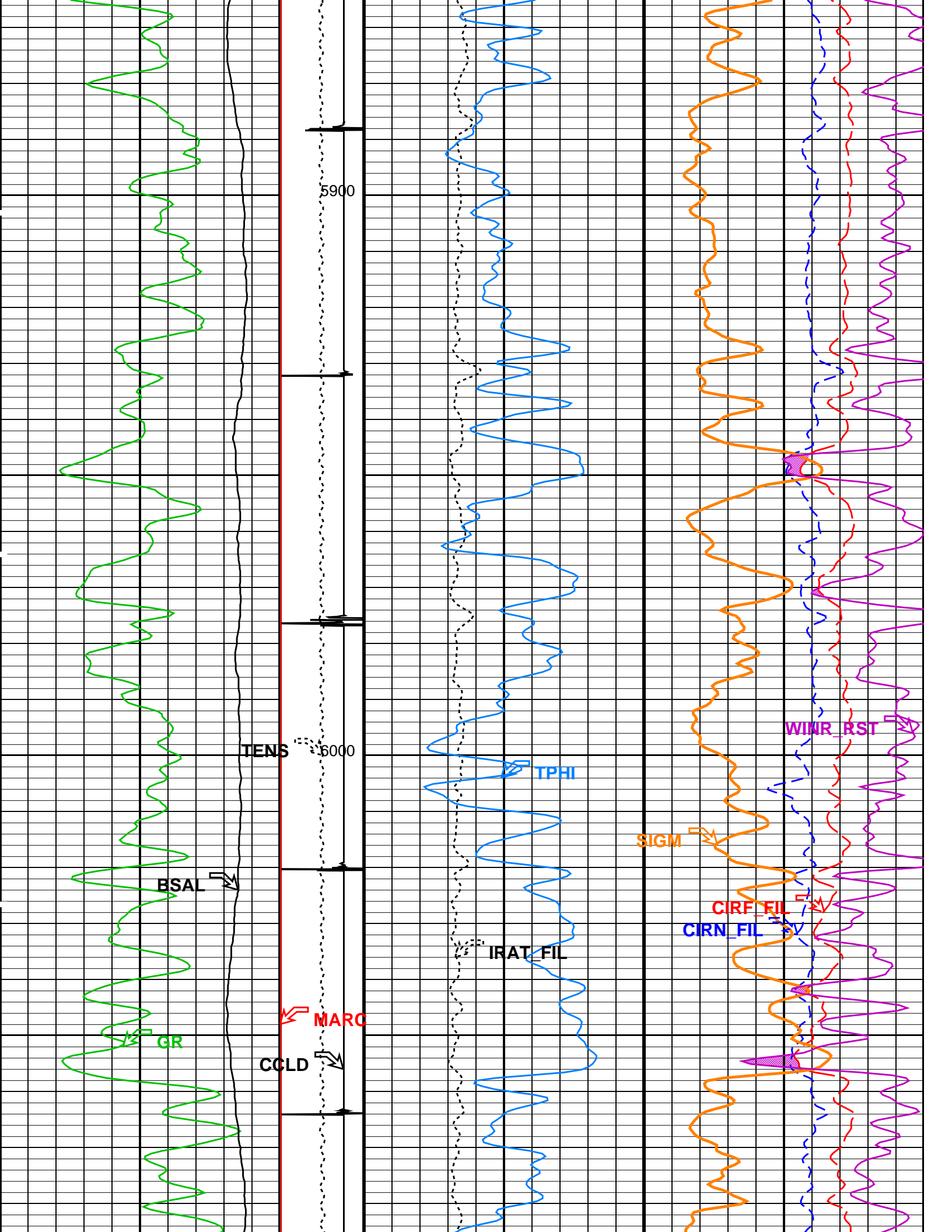


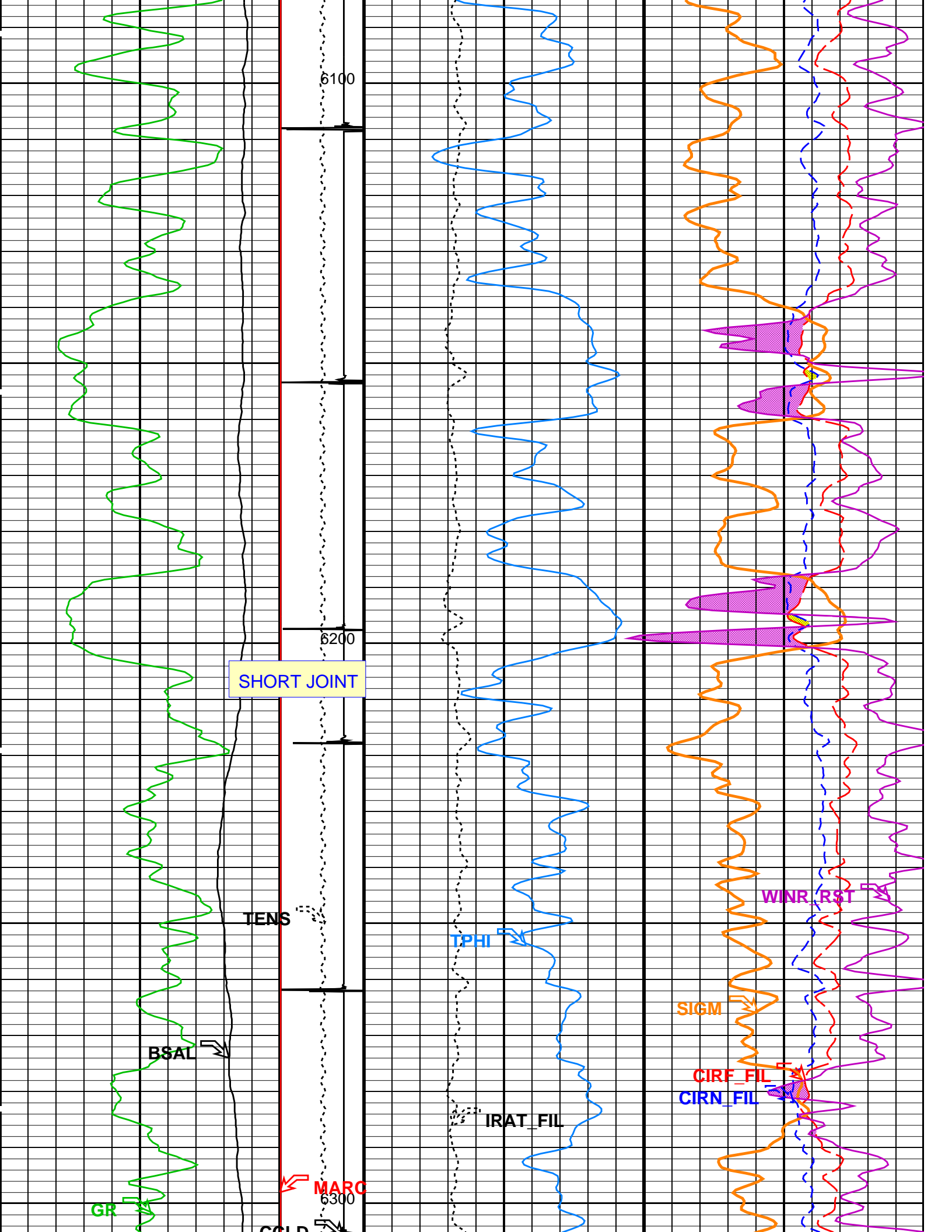


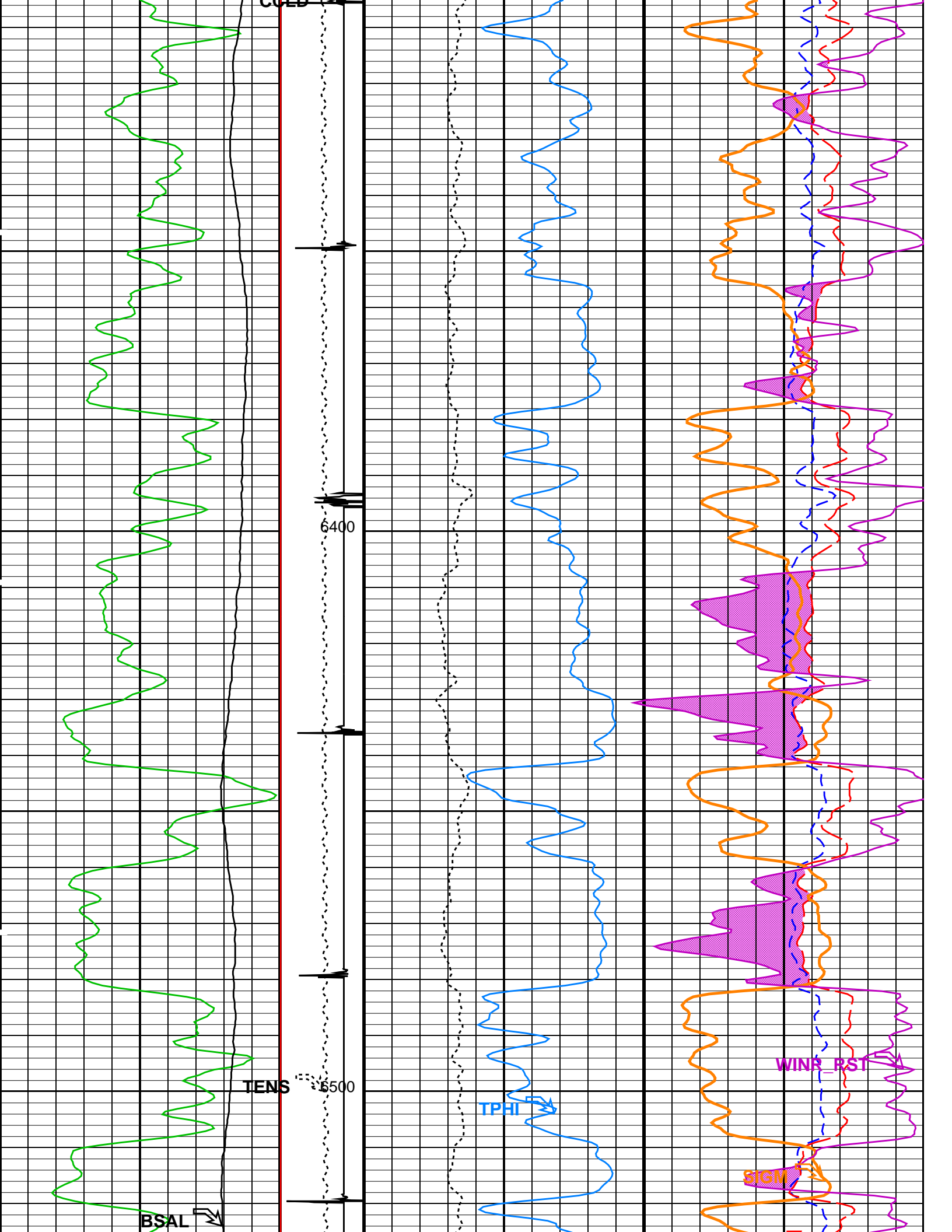


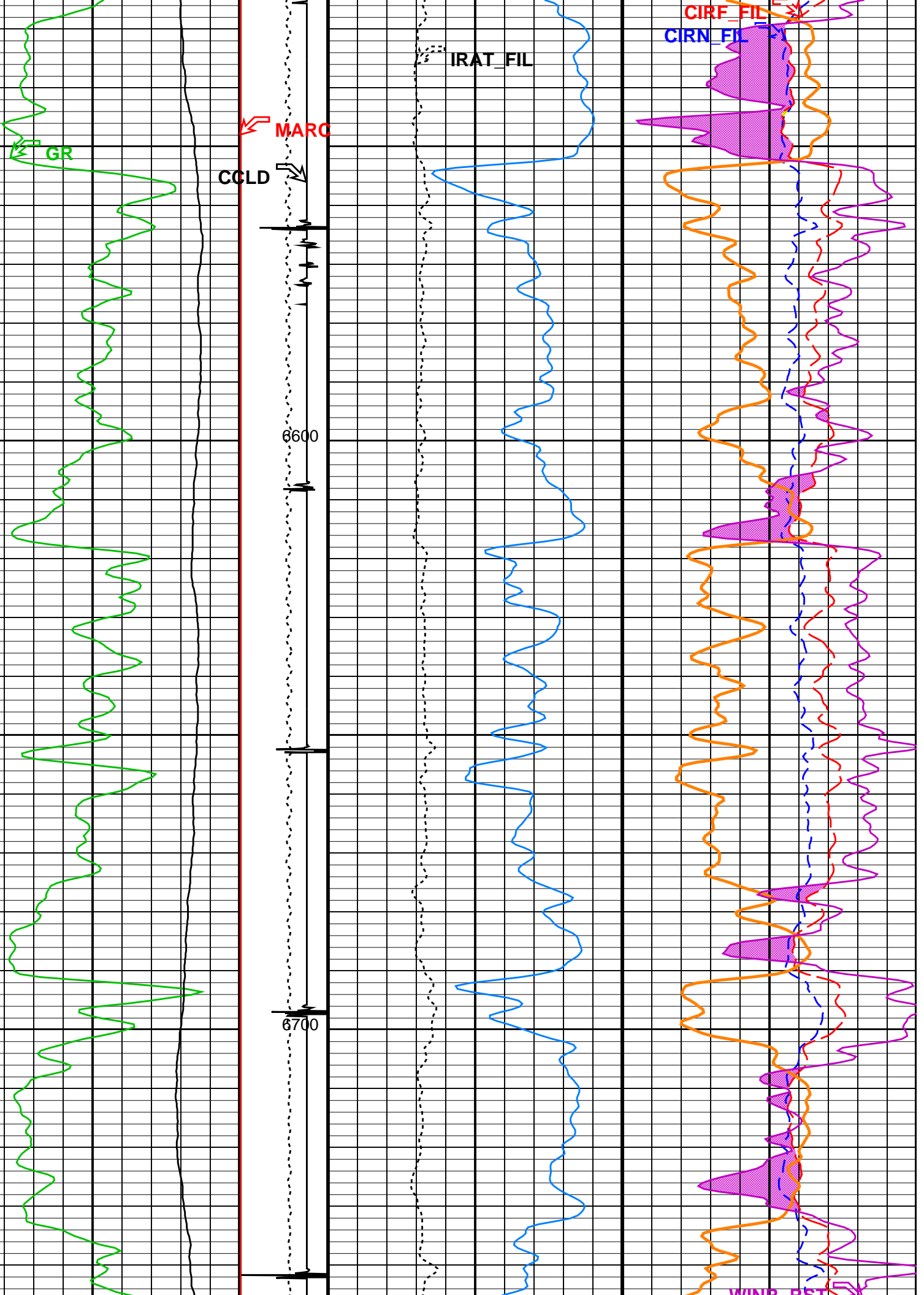


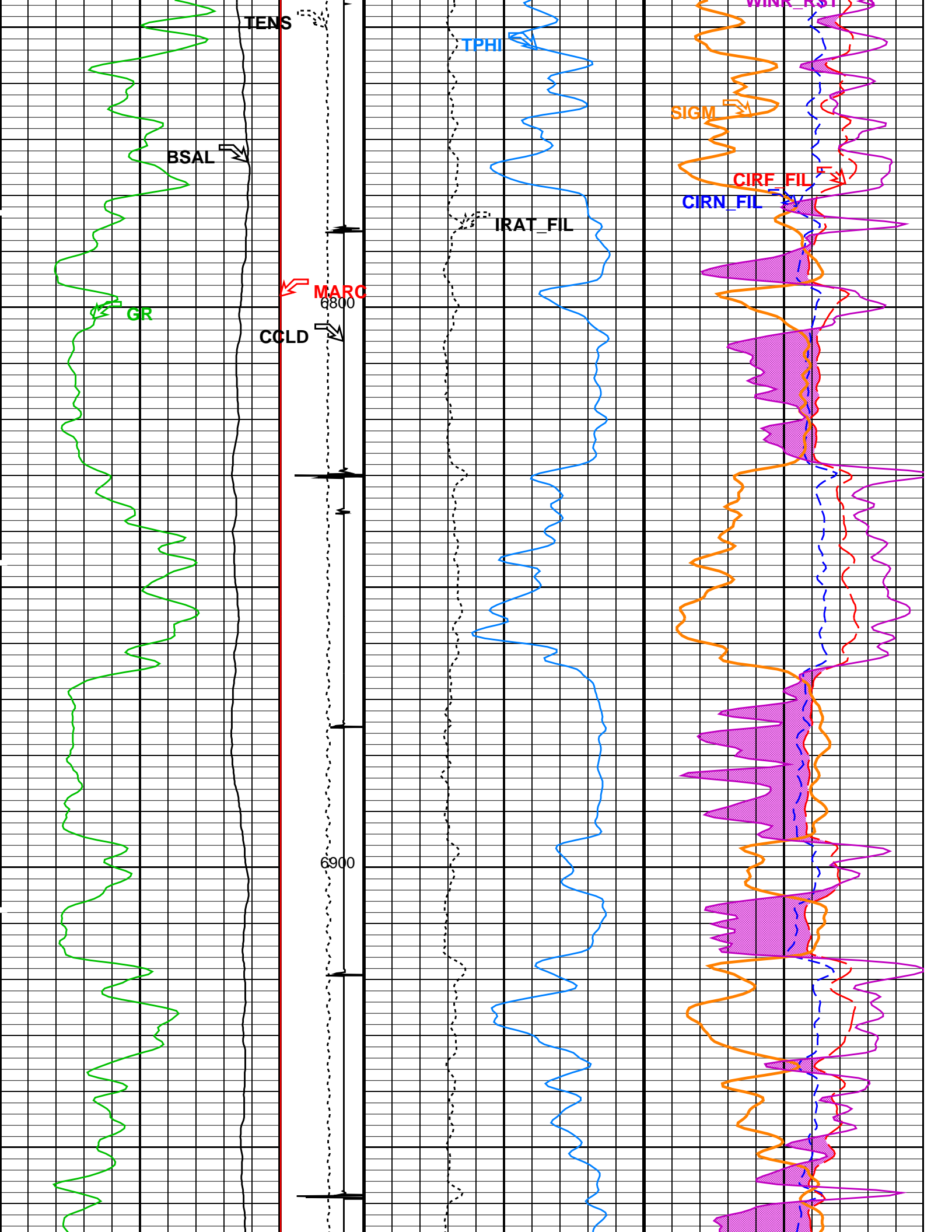


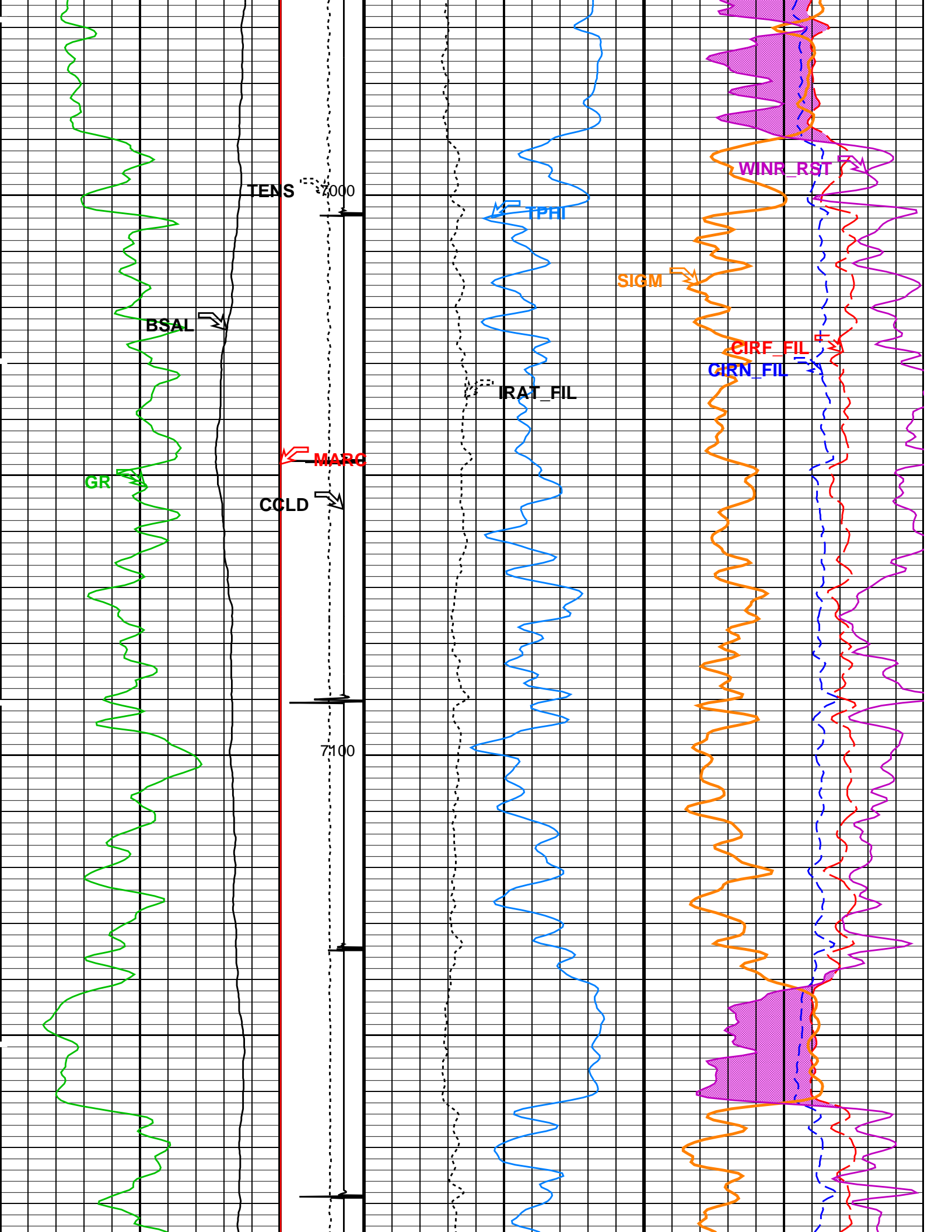


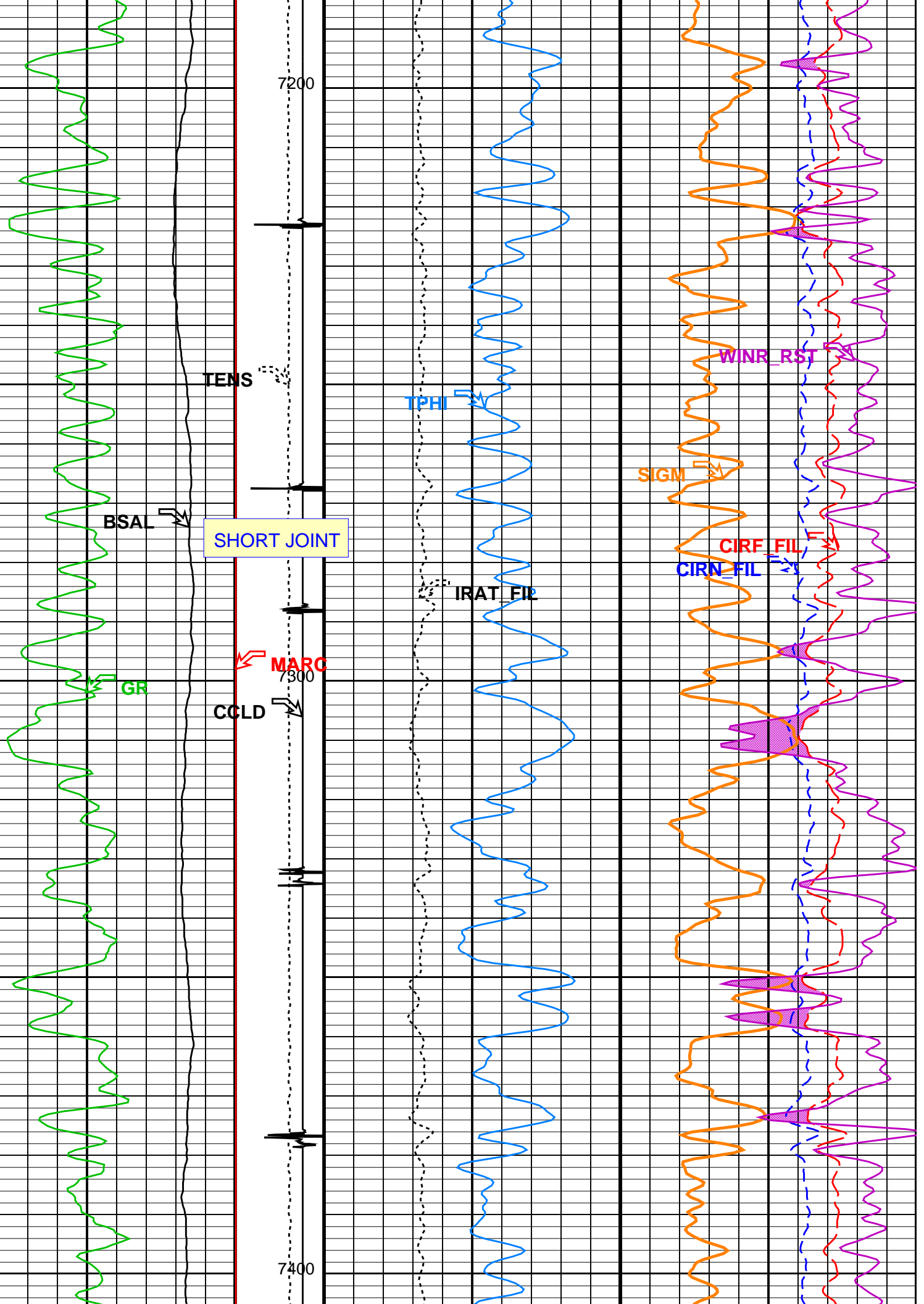


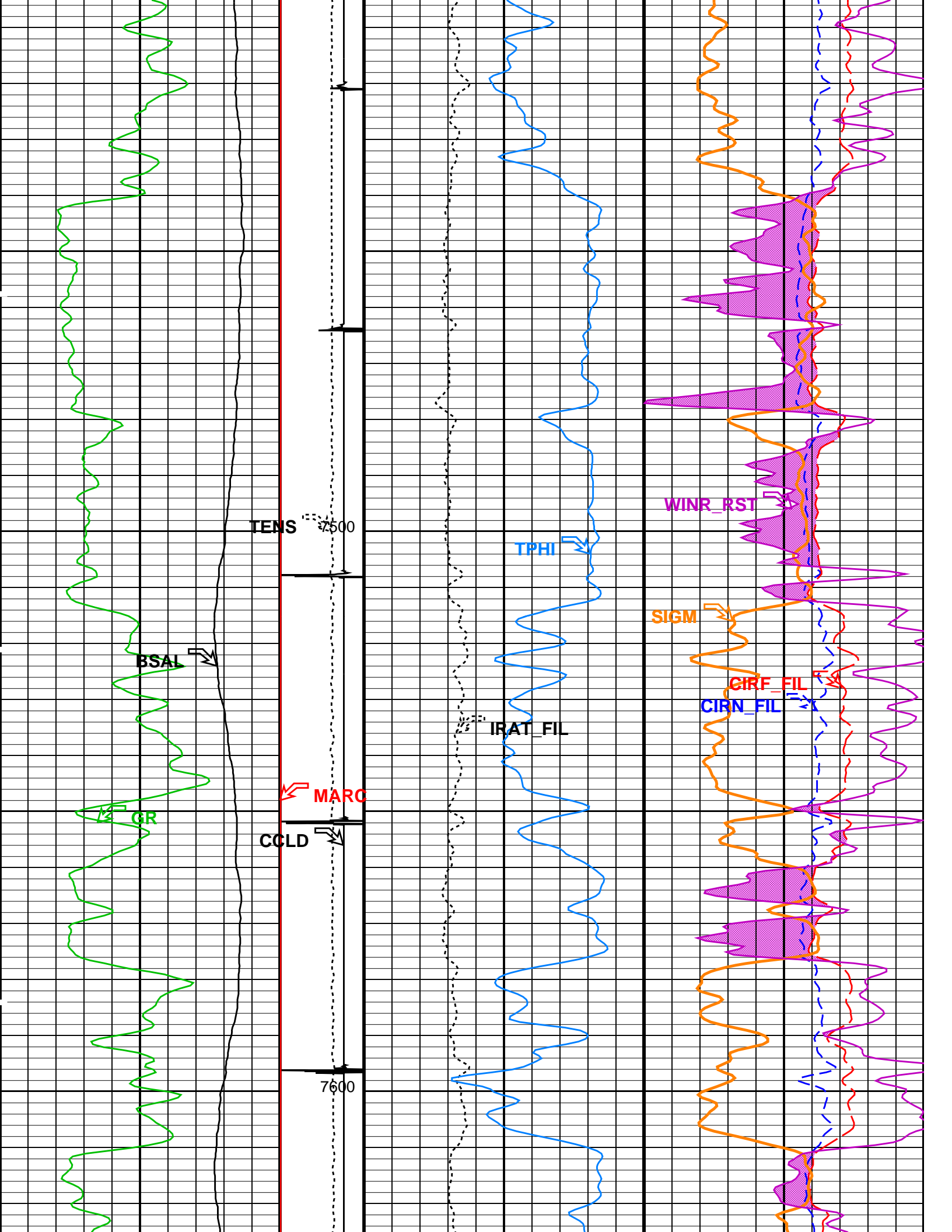


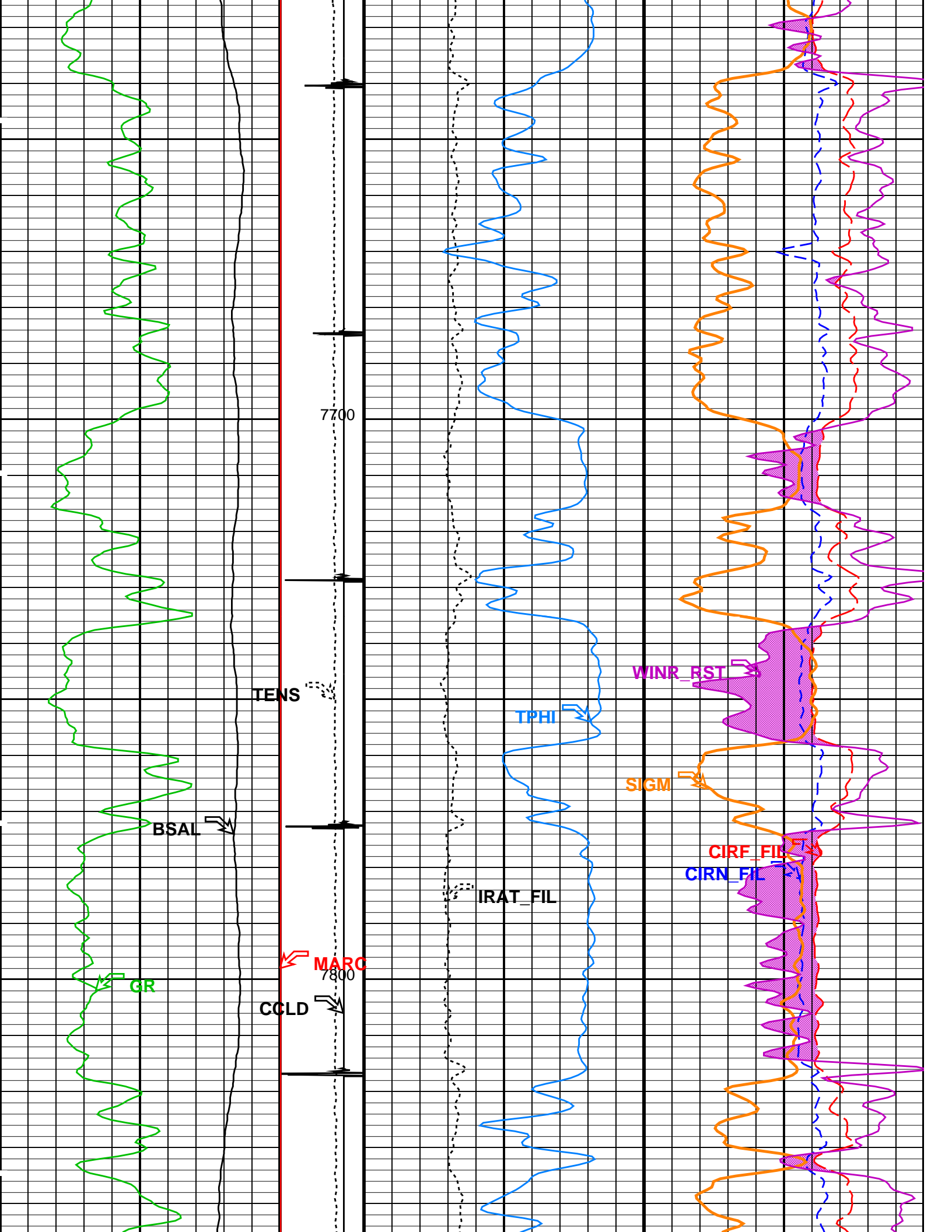


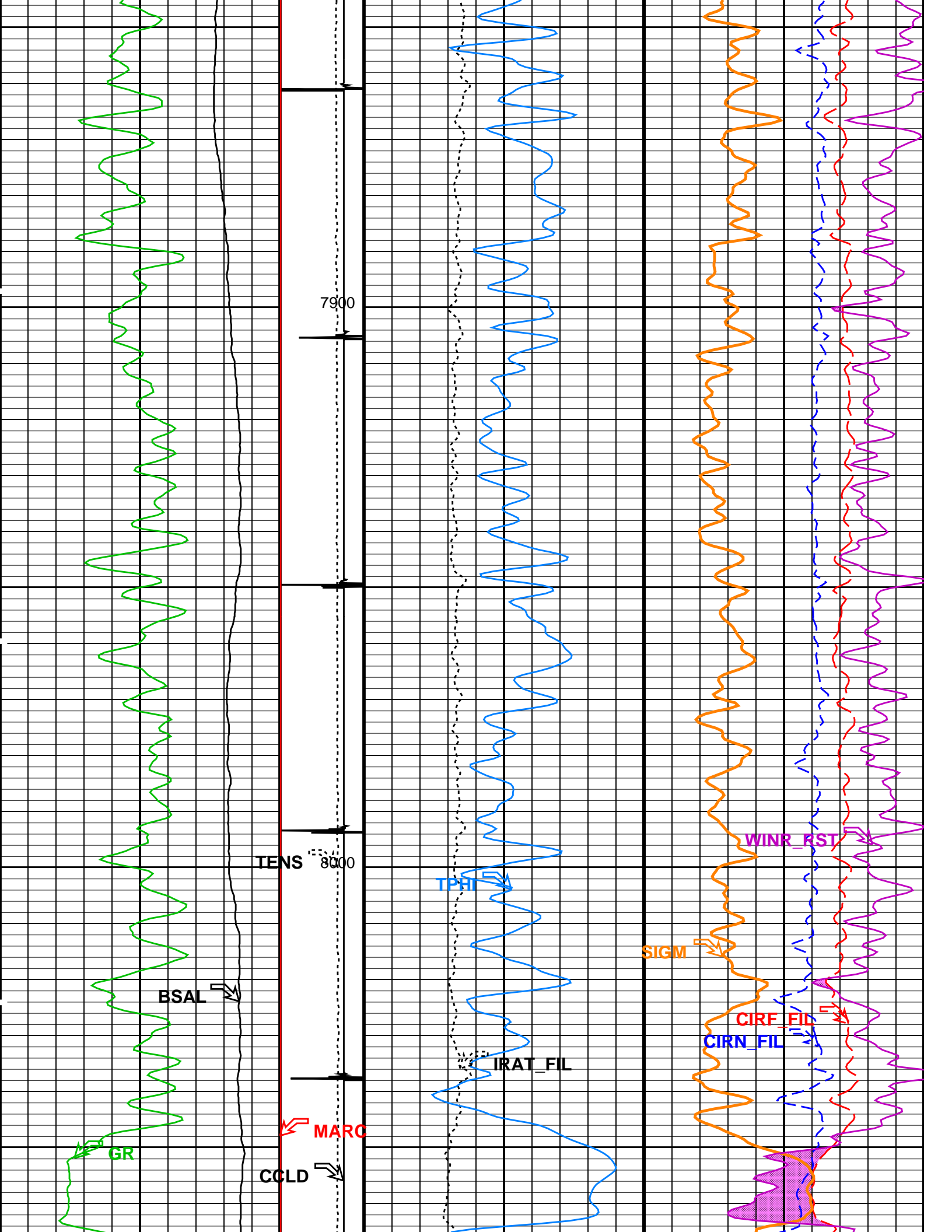


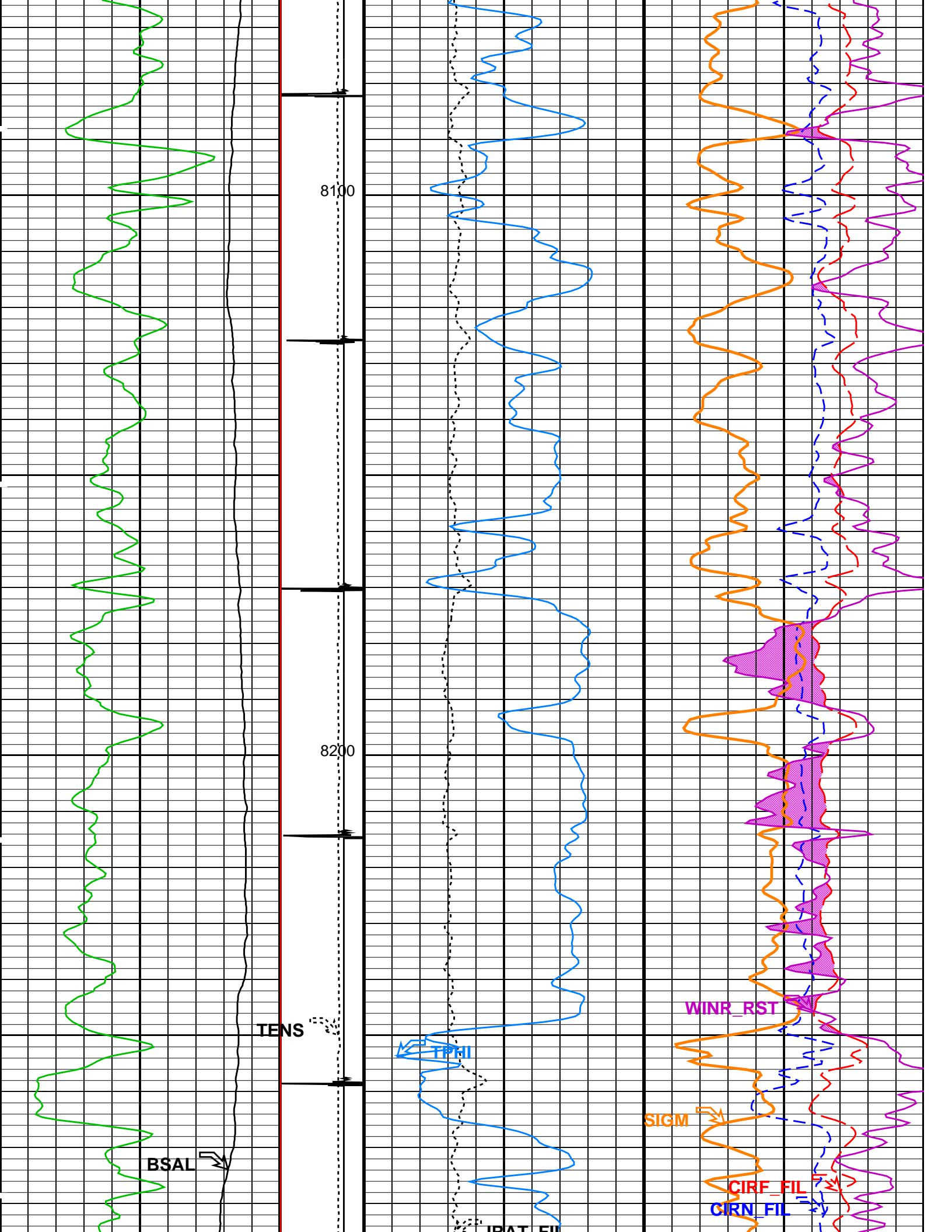


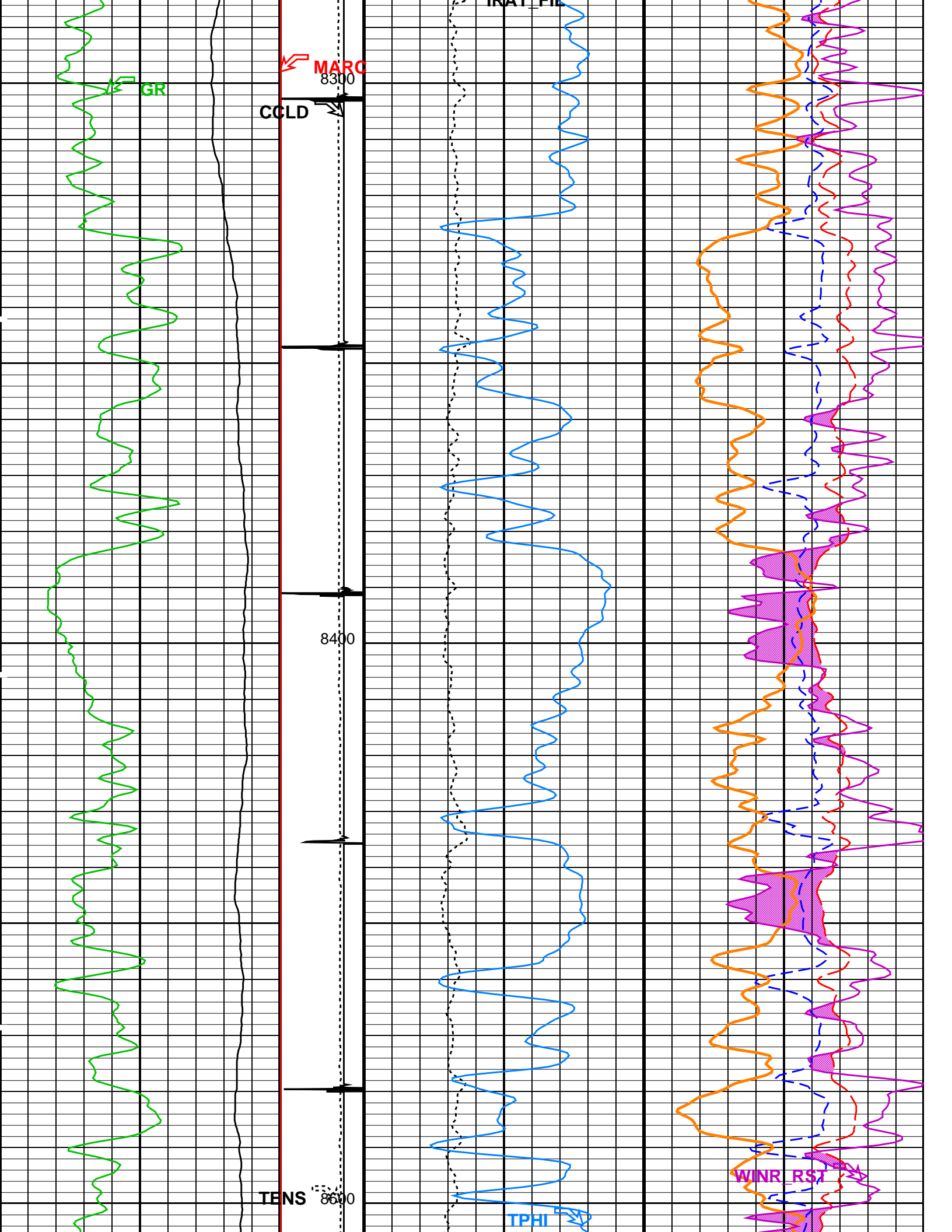


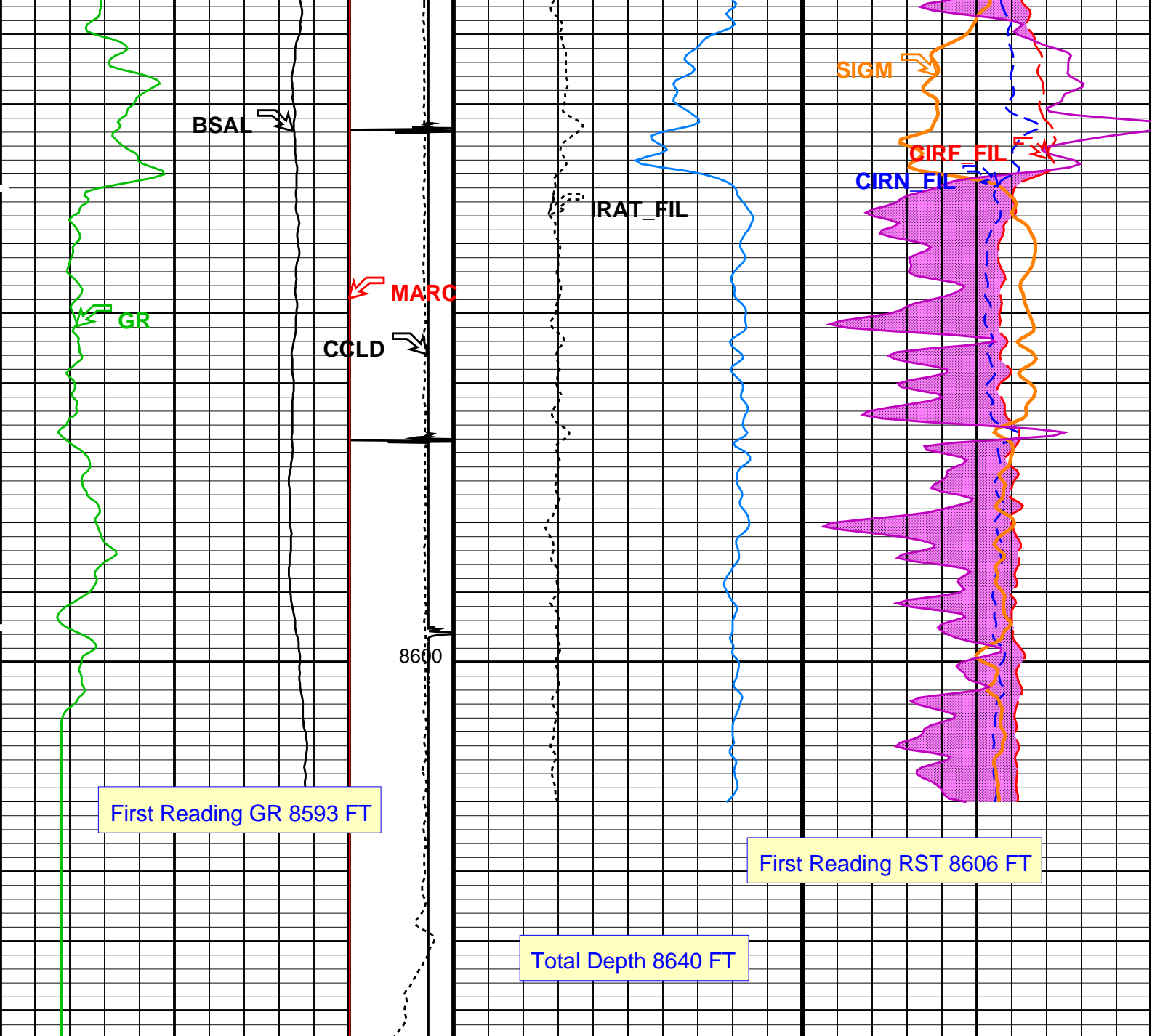












First Reading GR 8593 FT

First Reading RST 8606 FT

Total Depth 8640 FT

Gamma Ray (GR) (GAPI)	0 150	Tension (TENS) (LBF)	0 2000	RST Inelastic Ratio (IRAT_FIL)	0.75 (----) 0	RST Capture to Inelastic Ratio Near (CIRN_FIL)	2.5 (----) 0
RST Borehole Salinity (BSAL) (PPK)	450 -50	Discriminated CCL (CCLD) (V)	3 -1	RST Sigma (SIGM) (CU)	60 0	RST Capture to Inelastic Ratio Far (CIRF_FIL)	7 (----) 0
Minitron Arc Detection (MARC)	0 (----) 5	RST Porosity (TPHI) (VV)	0.5 0	RST Weighted Inelastic Ratio (WINR_RST)	0.4 (----) 0	WINR Gas Flag From WINR to RST_CIRF_FIL	
Crossover in sand							

## PIP SUMMARY

Time Mark Every 60 S

## Parameters

DLIS Name	Description	Value	
SCMT-CB: Slim Cement Mapping Tool, 1-11/16 OD			
BILI	Bond Index Level for Zone Isolation	0.8	
BISS	Bond Index Source Selection for BIQL	BI	
CB3D	SCMT CBL 3 ft Peak Detection Mode	PEAK	
CB3G	SCMT CBL 3 ft Peak Detection T0_Delay and Noise Gate	224.559	US
CB3T	SCMT CBL 3 ft Fixed Threshold Level	20	MV
CB5D	SCMT CBL 5 ft Peak Detection Mode	PEAK	
CB5G	SCMT CBL 5 ft Peak Detection T0_Delay and Noise Gate	338.559	US
CB5T	SCMT CBL 5 ft Fixed Threshold Level	20	MV
CBLG	CBL Gate Width	45	US
CBRA	CBL LQC Reference Amplitude in Free Pipe	80	MV
CMCF	CBL Cement Type Compensation Factor	1	
CMTC	SCMT Slow Channel Multiplexer Mode	SCAN	
CMTM	SCMT Operating Mode	LOG	
CMTT	SCMT Tool position on CAN	5	
CSCS	SCMT Slow Channel Index	VCC	
CTHI	Casing Thickness	0.255617	IN
DTF	Delta-T Fluid	189	US/F
FATT	Acoustic Attenuation due to Fluid	0	DB/F
FCF	CBL Fluid Compensation Factor	0.924277	
GOBO	Good Bond	1.55185	MV
MAPD	SCMT MAP Peak Detection Mode	PEAK	
MAPG	SCMT MAP Peak Detection T0_Delay and Noise Gate	167.559	US
MAPT	SCMT MAP Fixed Threshold Level	30	MV
MATT	Maximum Attenuation	16.5449	DB/F
MCCF	MAP Cement Type Compensation Factor	1	
MCI	Minimum Cemented Interval for Isolation	1.25	FT
MMSA	MAP Minimum Sonic Amplitude	4.32284	MV
MSA	Minimum Sonic Amplitude	0.579149	MV
PEDE	Peak Detection On/Off Switch in Playback	OFF	
RBC	Relative Bearing Correction Allow/Disallow	ALLOW	
VDLG	VDL Manual Gain	5	
ZCMT	Acoustic Impedance of Cement	6.8	MRAY
RST-C: Reservoir Saturation Pro Tool C			
AIRB	Tractor Available in Tool String	NO	
BHS	RST Air Borehole	No	
BHT	Borehole Status	CASED	
BSALOPT	Bottom Hole Temperature (used in calculations)	212	DEGF
BSFL	RST Borehole Salinity Option	Unknown	
CSID	RST Borehole Salinity Filter Length	51	
DFPC	Casing Size I.D.	4	IN
DFPC_TDTL	RST Depth Filter Processing Constant	One	
GCSE	RST Depth Filter Processing Constant (TDT-like)	Two	
GDEV	Generalized Caliper Selection	BS	
GGRD	Average Angular Deviation of Borehole from Normal	0	DEG
GRSE	Geothermal Gradient	0.01	DF/F
GTSE	Generalized Mud Resistivity Selection	CHART_GEN 9	
ISSBAR	Generalized Temperature Selection	LINEAR_ESTIMATE	
MATR	Barite Mud Switch	NOBARITE	
NORM_IRAT_RST	Rock Matrix for Neutron Porosity Corrections	SANDSTONE	
NORM_SIGM_RST	RST Normalized Inelastic Ratio	0.48	
PTIER	RST Normalized Sigma	30	CU
PVL_PSNT_PRST	RST Tiered Presentation Selection	0_Customer	
RGAI	PVL Peak Signal/Noise Threshold	3	
SHT	Near/Far Gain Calibration Ratio	1	
TIER_IC	Surface Hole Temperature	68	DEGF
TIER_SIGM	RST IC Acquisition Mode	0_CO_Yield_and_Spectrolith	
WOFSL_PRST	RST Sigma Acquisition Mode	0_RST_Sigma	
WONSL_PRST	RST WFL-Off Subcycle Length	0	
WSCOM_PRST	RST WFL-On Subcycle Length	0	
PSPT: Production Services Logging Platform			
BHS	Borehole Status	CASED	
BHT	Bottom Hole Temperature (used in calculations)	212	DEGF
CSID	Casing Size I.D.	4	IN
GCSE	Generalized Caliper Selection	BS	
GDEV	Average Angular Deviation of Borehole from Normal	0	DEG
GGRD	Geothermal Gradient	0.01	DF/F
GRSE	Generalized Mud Resistivity Selection	CHART_GEN 9	
GTSE	Generalized Temperature Selection	LINEAR_ESTIMATE	
ISSBAR	Barite Mud Switch	NOBARITE	
MATR	Rock Matrix for Neutron Porosity Corrections	SANDSTONE	
PBPO	PBMS Tool position on CAN	2	
PCCG	PBMS CCL Gain	DRP	

PCCG	PBMS CCL Gain	DBD	1	
PSTP	PSTC Tool Position on CAN Bus			
SHT	Surface Hole Temperature		68	DEGF
System and Miscellaneous				
ALDTPCHAN	Name of alternate depth channel	SpeedCorrectedDepth		
BS	Bit Size		8.750	IN
BSAL	Borehole Salinity		-50000.00	PPM
CSIZ	Current Casing Size		4.500	IN
CWEI	Casing Weight		11.60	LB/F
DFD	Drilling Fluid Density		8.40	LB/G
DO	Depth Offset for Playback		6.0	FT
FLEV	Fluid Level		60.00	FT
MST	Mud Sample Temperature		-50000.00	DEGF
PBVSADP	Use alternate depth channel for playback		NO	
PP	Playback Processing	RECOMPUTE		
RMFS	Resistivity of Mud Filtrate Sample		-50000.0000	OHMM
RW	Resistivity of Connate Water		1.0000	OHMM
TD	Total Depth		8640	FT
TDD	Total Depth - Driller		8730.00	FT
TDL	Total Depth - Logger		8640.00	FT
TWS	Temperature of Connate Water Sample		100.00	DEGF

Format: RST\_SIGMA\_S5 Vertical Scale: 5" per 100' Graphics File Created: 22-Oct-2013 08:28

### OP System Version: 19C0-187

SCMT-CB SRPC-5214-H2-2012-OP1! RST-C SRPC-5214-H2-2012-OP1!  
 PSPT SRPC-5214-H2-2012-OP1!

#### Input DLIS Files

DEFAULT	SCMT_RST_PSP_065LUP	FN:61	PRODUCER	22-Oct-2013 06:05	8648.0 FT	6.2 FT
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#### Output DLIS Files

DEFAULT	SCMT_RST_PSP_068PUP	FN:64	PRODUCER	22-Oct-2013 08:28		
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## REPEAT ANALYSIS RST SIGMA

MAXIS Field Log

#### Input DLIS Files

DEFAULT	SCMT_RST_PSP_063LUP	FN:59	PRODUCER	22-Oct-2013 05:48	6415.0 FT	6039.5 FT
DEFAULT	SCMT_RST_PSP_068PUP	FN:64	PRODUCER	22-Oct-2013 08:28	8654.0 FT	-32.0 FT

#### Output DLIS Files

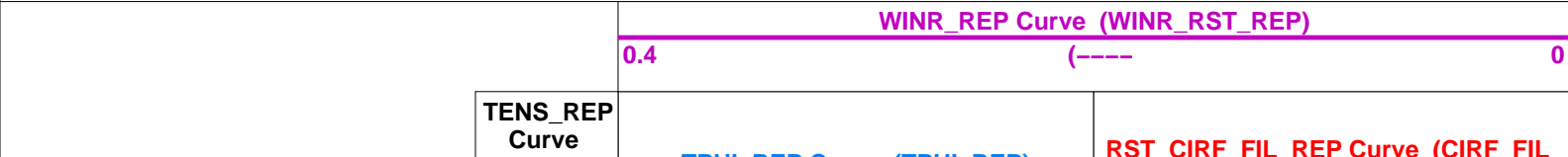
DEFAULT	SCMT_RST_PSP_070PUP	FN:66	PRODUCER	22-Oct-2013 08:39	6417.0 FT	5997.0 FT
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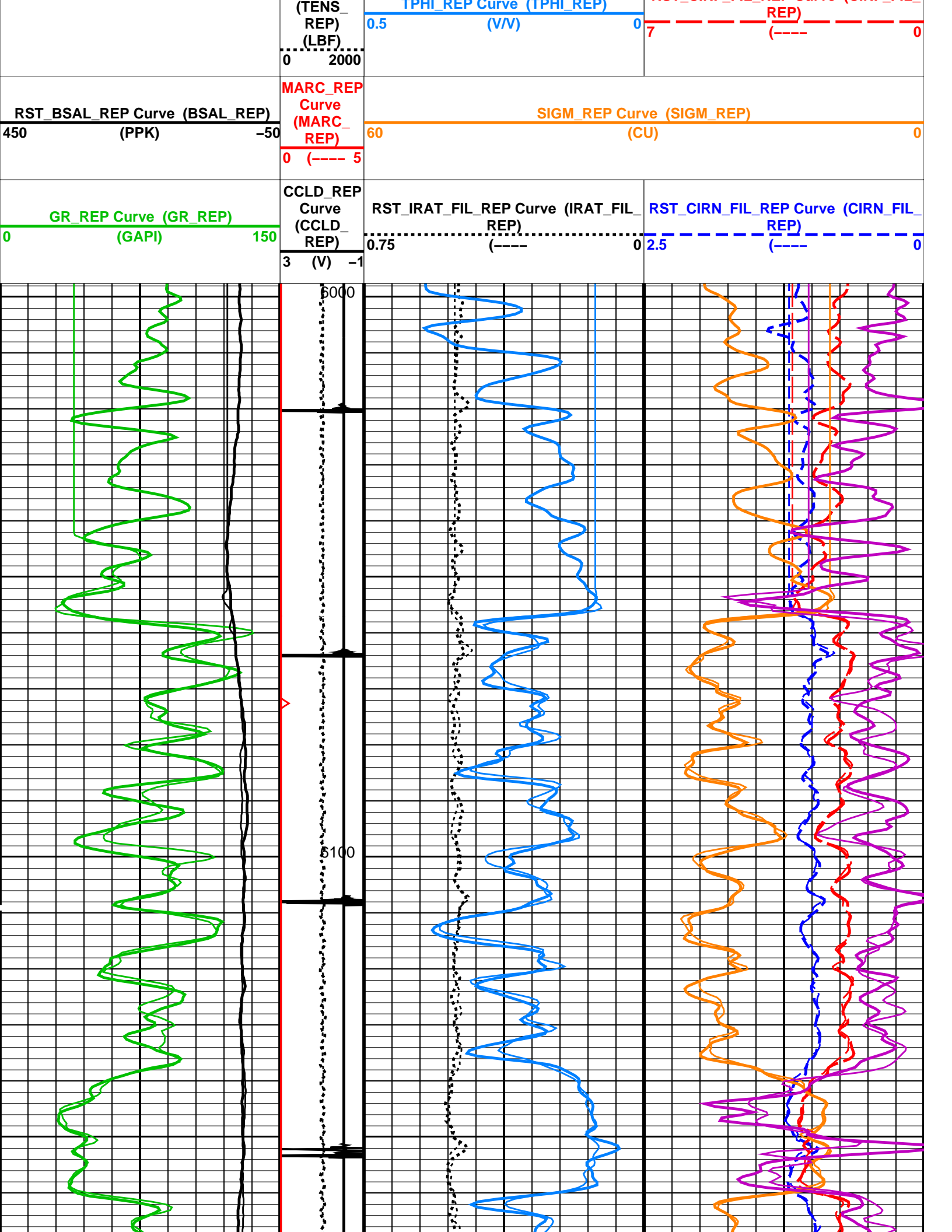
### OP System Version: 19C0-187

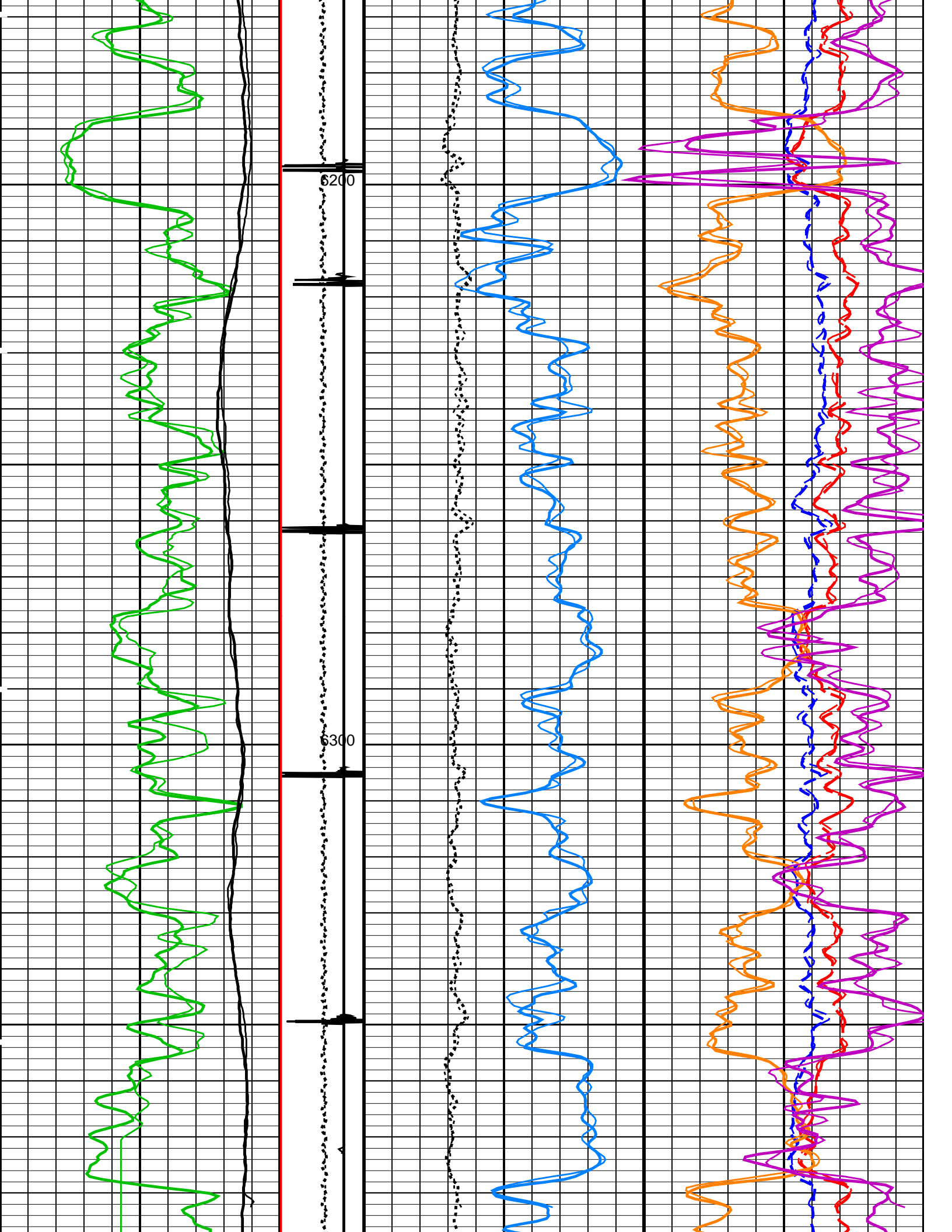
SCMT-CB SRPC-5214-H2-2012-OP1! RST-C SRPC-5214-H2-2012-OP1!  
 PSPT SRPC-5214-H2-2012-OP1!

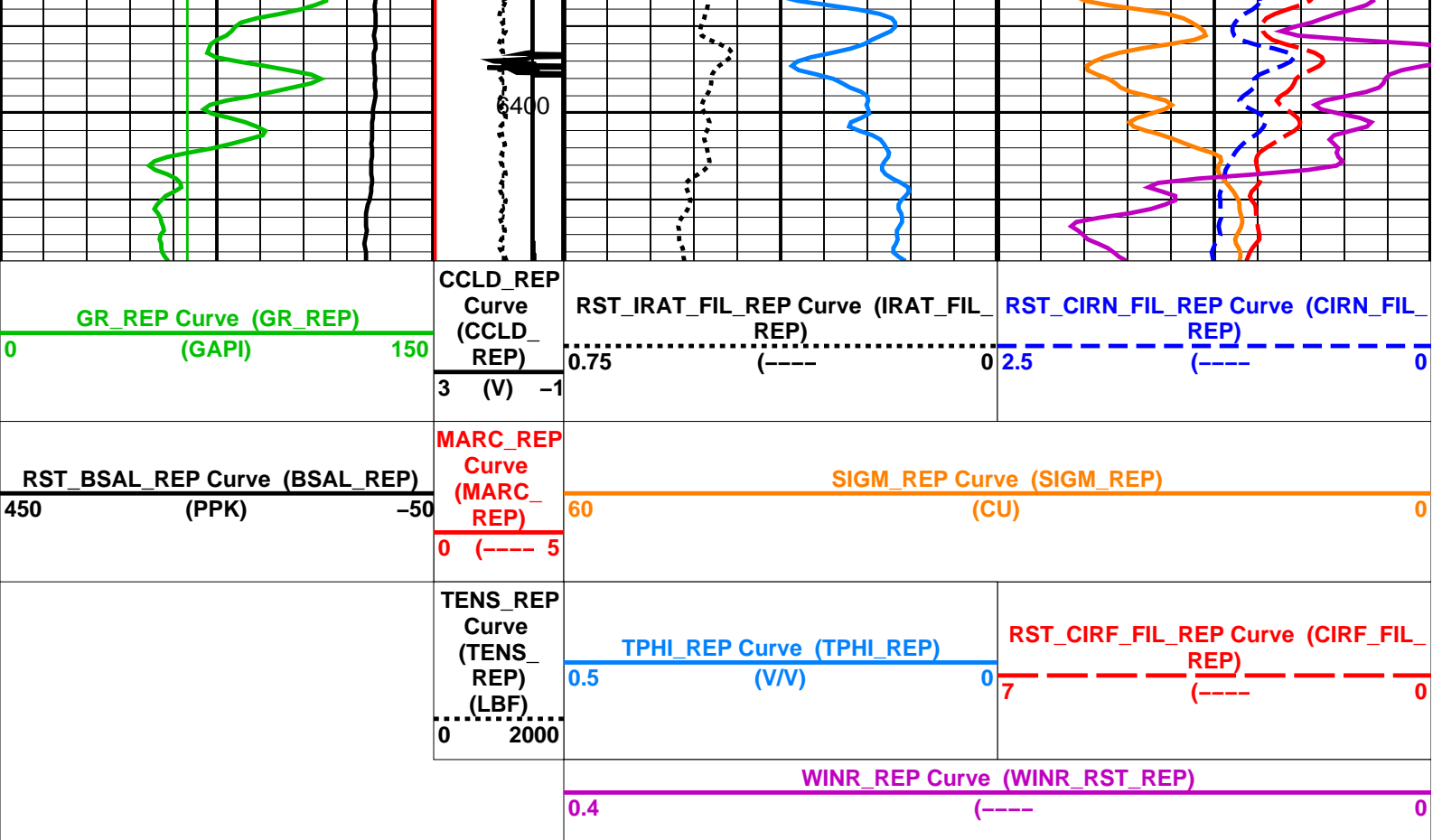
#### PIP SUMMARY

Time Mark Every 60 S









PIP SUMMARY

Time Mark Every 60 S

Parameters

DLIS Name	Description	Value
SCMT-CB: Slim Cement Mapping Tool, 1-11/16 OD		
BILI	Bond Index Level for Zone Isolation	0.8
BISS	Bond Index Source Selection for BIQL	BI
CB3D	SCMT CBL 3 ft Peak Detection Mode	PEAK
CB3G	SCMT CBL 3 ft Peak Detection T0_Delay and Noise Gate	224.559 US
CB3T	SCMT CBL 3 ft Fixed Threshold Level	20 MV
CB5D	SCMT CBL 5 ft Peak Detection Mode	PEAK
CB5G	SCMT CBL 5 ft Peak Detection T0_Delay and Noise Gate	338.559 US
CB5T	SCMT CBL 5 ft Fixed Threshold Level	20 MV
CBLG	CBL Gate Width	45 US
CBRA	CBL LQC Reference Amplitude in Free Pipe	80 MV
CMCF	CBL Cement Type Compensation Factor	1
CMTC	SCMT Slow Channel Multiplexer Mode	SCAN
CMTM	SCMT Operating Mode	LOG
CMTPT	SCMT Tool position on CAN	5
CSCS	SCMT Slow Channel Index	VCC
CTHI	Casing Thickness	0.255617 IN
DTF	Delta-T Fluid	189 US/F
FATT	Acoustic Attenuation due to Fluid	0 DB/F
FCF	CBL Fluid Compensation Factor	0.924277
GOBO	Good Bond	1.55185 MV
MAPD	SCMT MAP Peak Detection Mode	PEAK
MAPG	SCMT MAP Peak Detection T0_Delay and Noise Gate	167.559 US
MAPT	SCMT MAP Fixed Threshold Level	30 MV
MATT	Maximum Attenuation	16.5449 DB/F
MCCF	MAP Cement Type Compensation Factor	1
MCI	Minimum Cemented Interval for Isolation	1.25 FT
MMSA	MAP Minimum Sonic Amplitude	4.32284 MV
MSA	Minimum Sonic Amplitude	0.579149 MV
PEDE	Peak Detection On/Off Switch in Playback	OFF
RBC	Relative Bearing Correction Allow/Disallow	ALLOW
VDLG	VDL Manual Gain	5
ZCMT	Acoustic Impedance of Cement	6.8 MRAY
RST-C: Reservoir Saturation Pro Tool C		
AIRB	Tractor Available in Tool String	NO
BHS	RST Air Borehole	No
BHT	Borehole Status	CASED
BHT	Bottom Hole Temperature (used in calculations)	212 DEG F
BSALOPT	RST Borehole Salinity Option	Unknown

BSALOP1	RST Borehole Salinity Option	Unknown	
BSFL	RST Borehole Salinity Filter Length	51	
CSID	Casing Size I.D.	4	IN
DFPC	RST Depth Filter Processing Constant	One	
DFPC_TDTL	RST Depth Filter Processing Constant (TDT-like)	Two	
GCSE	Generalized Caliper Selection	BS	
GDEV	Average Angular Deviation of Borehole from Normal	0	DEG
GGRD	Geothermal Gradient	0.01	DF/F
GRSE	Generalized Mud Resistivity Selection	CHART_GEN_9	
GTSE	Generalized Temperature Selection	LINEAR_ESTIMATE	
ISSBAR	Barite Mud Switch	NOBARITE	
MATR	Rock Matrix for Neutron Porosity Corrections	SANDSTONE	
NORM_IRAT_RST	RST Normalized Inelastic Ratio	0.48	
NORM_SIGM_RST	RST Normalized Sigma	30	CU
PTIER	RST Tiered Presentation Selection	0_Customer	
PVL_PSNT_PRST	PVL Peak Signal/Noise Threshold	3	
RGAI	Near/Far Gain Calibration Ratio	1	
SHT	Surface Hole Temperature	68	DEGF
TIER_IC	RST IC Acquisition Mode	0_CO_Yield_and_Spectrolith	
TIER_SIGM	RST Sigma Acquisition Mode	0_RST_Sigma	
WOFSL_PRST	RST WFL-Off Subcycle Length	0	
WONSL_PRST	RST WFL-On Subcycle Length	0	
WSCOM_PRST	RST Station Log Comment		
<b>PSPT: Production Services Logging Platform</b>			
BHS	Borehole Status	CASED	
BHT	Bottom Hole Temperature (used in calculations)	212	DEGF
CSID	Casing Size I.D.	4	IN
GCSE	Generalized Caliper Selection	BS	
GDEV	Average Angular Deviation of Borehole from Normal	0	DEG
GGRD	Geothermal Gradient	0.01	DF/F
GRSE	Generalized Mud Resistivity Selection	CHART_GEN_9	
GTSE	Generalized Temperature Selection	LINEAR_ESTIMATE	
ISSBAR	Barite Mud Switch	NOBARITE	
MATR	Rock Matrix for Neutron Porosity Corrections	SANDSTONE	
PBPO	PBMS Tool position on CAN	2	
PCCG	PBMS CCL Gain	DB0	
PSTP	PSTC Tool Position on CAN Bus	1	
SHT	Surface Hole Temperature	68	DEGF
<b>System and Miscellaneous</b>			
ALTDPCHAN	Name of alternate depth channel	SpeedCorrectedDepth	
BS	Bit Size	8.750	IN
BSAL	Borehole Salinity	-50000.00	PPM
CSIZ	Current Casing Size	4.500	IN
CWEI	Casing Weight	11.60	LB/F
DFD	Drilling Fluid Density	8.40	LB/G
DO	Depth Offset for Playback	2.0	FT
DORL	Depth Offset for Repeat Analysis	0.0	FT
FLEV	Fluid Level	60.00	FT
MST	Mud Sample Temperature	-50000.00	DEGF
PBVSDP	Use alternate depth channel for playback	NO	
PP	Playback Processing	RECOMPUTE	
RMFS	Resistivity of Mud Filtrate Sample	-50000.0000	OHMM
RW	Resistivity of Connate Water	1.0000	OHMM
TD	Total Depth	8640	FT
TDD	Total Depth - Driller	8730.00	FT
TDL	Total Depth - Logger	8640.00	FT
TWS	Temperature of Connate Water Sample	100.00	DEGF

Format: RST\_SIGMA\_S5\_REP      Vertical Scale: 5" per 100'      Graphics File Created: 22-Oct-2013 08:39

## OP System Version: 19C0-187

SCMT-CB      SRPC-5214-H2-2012-OP1!      RST-C      SRPC-5214-H2-2012-OP1!  
 PSPT      SRPC-5214-H2-2012-OP1!

### Input DLIS Files

DEFAULT	SCMT_RST_PSP_063LUP	FN:59	PRODUCER	22-Oct-2013 05:48	6415.0 FT	6039.5 FT
DEFAULT	SCMT_RST_PSP_068PUP	FN:64	PRODUCER	22-Oct-2013 08:28	8654.0 FT	-32.0 FT

### Output DLIS Files

DEFAULT	SCMT_RST_PSP_070PUP	FN:66	PRODUCER	22-Oct-2013 08:39		
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MAXIS Field Log

Client: ENCANA OIL & GAS (USA) INC  
Field: SOUTH PARACHUTE  
Well: HAGEN FEDERAL 22-1A (PC22)  
Run date: 22-Oct-2013

Tool: PSP  
Sub Type: PBMS  
Sensor: GR

PBMS Gamma Ray

Sonde Serial NB RESISTORS FOR GR SENSOR N.33223, TOOL PBMS-BA0928. SENSOR S/N:  
Sensor Serial NB 33223  
Calib Date ddmmyy 090800  
Matrix Size 12  
Coeff CRC CFE2

GR HV Rt

Rt\*\*0

Rt\*\*1

Rt\*\*0

+ .182000000000e+04

+ .332000000000e+04

Client: ENCANA OIL & GAS (USA) INC  
Field: SOUTH PARACHUTE  
Well: HAGEN FEDERAL 22-1A (PC22)  
Run date: 22-Oct-2013

Tool: PSP  
Sub Type: PBMS  
Sensor: WellTemp RTD

PBMS RTD Well Thermometer

Sonde Serial NB COEFFICIENTS FOR RTD THERMOMETER PBMS-B.928 S/N:  
Sensor Serial NB 928  
Calib Date ddmmyy 280612  
Matrix Size 16  
Coeff CRC A24E

WTemp Coeff

	Tt**0	Tt**1	Tt**2
Tt**0	-.391987973189E+03	+.191346892512E+03	-.440920753451E+02
	Tt**3	Tt**4	Tt**5
Tt**0	+.957191300908E+01	-.711421725686E+00	0.0

Client: ENCANA OIL & GAS (USA) INC  
 Field: SOUTH PARACHUTE  
 Well: HAGEN FEDERAL 22-1A (PC22)  
 Run date: 22-Oct-2013

Tool: PSP  
 Sub Type: PBMS  
 Sensor: CQG

**PBMS Quartz Gauge type F**

Sonde Serial NB  
 Sensor Serial NB  
 Calib Date ddmmyy  
 Matrix Size  
 Coeff CRC

COEFFICIENTS FOR CQG PBMS-B.928 S/N:  
 928  
 280612  
 66  
 9DC3

**Pres Coeff**

	Fb**0	Fb**1	Fb**2
Fc**0	+.714463802232E+04	+.183434658655E-01	-.156620073569E-06
Fc**1	-.100638308957E+01	-.119899563644E-04	-.912155899025E-10
Fc**2	+.936268101283E-06	+.423898071451E-10	+.958076371919E-15
Fc**3	+.185123362373E-11	+.203107925433E-15	0.0
Fc**4	0.0	0.0	0.0
Fc**5	0.0	0.0	0.0

	Fb**3	Fb**4	Fb**5
Fc**0	-.746577997611E-10	-.588773826860E-15	-.622250441458E-19
Fc**1	-.120636521092E-15	+.400325894750E-19	0.0
Fc**2	0.0	0.0	0.0
Fc**3	0.0	0.0	0.0
Fc**4	0.0	0.0	0.0
Fc**5	0.0	0.0	0.0

PBMS Quartz Gauge type F

Sonde Serial NB :  
Sensor Serial NB 928  
Calib Date ddmmyy 280612  
Matrix Size 66  
Coeff CRC 283B

Temp Coeff

	Fc**0	Fc**1	Fc**2
Fb**0	+1.117016867873E+03	-.284359629614E-03	+6.04391180345E-08
Fb**1	-.598309140812E-02	+1.182731130848E-07	+1.160166486172E-12
Fb**2	-.307621454576E-07	+3.300601550309E-12	+3.311233548560E-17
Fb**3	-.419658736767E-12	+1.117473708647E-16	0.0
Fb**4	0.0	0.0	0.0
Fb**5	0.0	0.0	0.0

	Fc**3	Fc**4	Fc**5
Fb**0	+1.114322792679E-12	+1.153807711176E-17	-.736714260866E-21
Fb**1	-.528037875456E-18	-.220337637519E-21	0.0
Fb**2	0.0	0.0	0.0
Fb**3	0.0	0.0	0.0
Fb**4	0.0	0.0	0.0
Fb**5	0.0	0.0	0.0

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PBMS Quartz Gauge type F

Sonde Serial NB :  
Sensor Serial NB 928  
Calib Date ddmmyy 280612  
Matrix Size 16  
Coeff CRC 093F

Clock Freq Coeff

	(Fb'-Fc')**0	(Fb'-Fc')**1	(Fb'-Fc')**2
(Fb'-Fc')**0	+3.10874009898E+05	+2.88920923041E-02	+6.97940727038E-06
(Fb'-Fc')**1	-.657432344763E-10	-.412920638782E-15	+2.13369826099E-20

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PBMS Quartz Gauge type F

Sonde Serial NB :

Sensor Serial NB 928  
Calib Date ddmmyy 280612  
Matrix Size 16  
Coeff CRC 8419

Clock Temp Coeff

	$(Fb'-Fc')^{**0}$	$(Fb'-Fc')^{**1}$	$(Fb'-Fc')^{**2}$
$(Fb'-Fc')^{**0}$	+1.15369519827E+03	-5.65338877075E-02	-3.33717531829E-07
	$(Fb'-Fc')^{**3}$	$(Fb'-Fc')^{**4}$	$(Fb'-Fc')^{**5}$
$(Fb'-Fc')^{**0}$	-.124387135327E-12	+7.13102327208E-16	-.316084316842E-20

Company: **ENCANA OIL & GAS (USA) INC**

**Schlumberger**

Well: **HAGEN FEDERAL 22-1A (PC22)**

Field: **SOUTH PARACHUTE**

County: **GARFIELD**

State: **COLORADO**

RESERVOIR SATURATION LOG  
SIGMA MODE  
GR-CCL